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ABSTRACT

The valid interpretation of information related to the outcomes of vocational education is a persistent and profound problem of the profession. Some of the reasons for this problem are difficulties of communication, problems of definition, problems of collecting and interpreting data, and lack of documentation. The primary problem appears to be lack of commonly accepted definitions of "vocational student," "relatedness" of training to employment, "job performance," and "job satisfaction." To address these concerns, a National Conference on Outcome Measures for Vocational Education was held in August 1978. The four major papers presented at this conference are contained in this document. In the first paper, Mary Bach Kievit explains the values of the various groups directly concerned with vocational education, analyzes the impact that these values have on the perspective through which members of each group view vocational education, and ascertains the implications for choosing and interpreting outcome measures in vocational education. Then John Jennings describes the context in which the new evaluation requirements for vocational education came about in the Vocational Education Amendments of 1976, and the nature of those requirements. In the third paper, Donald W. Drewes examines the effects of standardized outcome measures through federal, state, and local levels. Finally, Grant Venn suggests that traditional success criteria in both work preparation and in general education are not relevant to the future. Somehow, the two must be put together and changed if vocational education is to meet the needs of both learner and society. (KC)

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VIEWPOINTS ON INTERPRETING OUTCOME MEASURES IN VOCATIONAL EDUCATION

A Project Funded by

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FOREWORD

Interpreting outcomes of vocational education is a major concern of teachers, administrators, advisory councils, and policy makers for vocational education at all levels. The concerns focus on vocational education's response to the requirements and intent of the Education Amendments of 1976 and to the need for effective vocational education programs and services to prepare individuals for employment.

The National Institute of Education recognized the confusion surrounding the interpretation of current vocational education outcome data and contracted with the National Center for Research in Vocational Education to examine the issues concerning interpretability of outcome data.

The National Center for Research in Vocational Education is indebted to Grant Venn, Mary Kievit, and Donald Drewes for their commissioned papers and John Jennings for his address presented at the National Conference on Outcome Measures for Vocational Education held August 16-18, 1978, in Louisville, Kentucky.

The papers were compiled into this single collection for your use. (They also appear as a part of Interpreting Outcome Measures in Vocational Education: Final Report.) Together the papers present several ideas about collecting, analyzing, and using vocational education outcome data presented by prominent professionals in the field. The collection provides a valuable overview of the issues surrounding vocational education outcome data.

Recognition for their efforts are due to many other persons including the project staff of Floyd McKinney, project director; Kenney Gray, research specialist, and Marie Abram, graduate research associate; the evaluation division staff including N. L. McCaslin, associate director and former acting project director; Jerry Walker, former associate director; Stephen Franchak, research specialist; Janet Weiskott, graduate research associate; Beth Harvey, graduate research associate and other staff of the National Center for Research in Vocational Education. Significant contributions to the conduct of the project were also made by Robert Stump, project officer, the National Institute of Education; and the national advisory committee for the project.

Robert E. Taylor
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INTRODUCTION

Problem

The valid interpretation of information related to the outcomes of vocational education is a persistent and profound problem of the profession. Congressional staff members, the National Advisory Council for Vocational Education, and numerous other agencies have expressed concern about the interpretability of vocational education outcome data.

There are several reasons for this concern. For example, various reports have indicated problems of definition; problems of communication; and problems of collecting and interpreting data. Also, there is a lack of documentation concerning the processes used to collect outcome data. Although this list of reasons is not inclusive, it does appear that the primary problem is definitional. Specifically, there is a lack of commonly accepted standard definitions of:

- vocational student
- relatedness of training to employment
- job performance (employers' view of former vocational students)
- job satisfaction (former students' views of occupational and other life roles).

For "vocational student" and "relatedness" the major definitional (and subsequent, interpretability) issues stem from seemingly inconsistent and incomplete uses of the terms by state and local education agencies. The problems with "job performance" and "job satisfaction" stem not so much from inconsistent usage as from a lack of measurement tools and processes by which one could even begin to grasp their operational meaning.

Interpreting Outcome Measures for Vocational Education Project

Recognizing the types of concerns surrounding the interpretation of vocational education outcome data, the National Institute of Education contracted with the National Center for Research in Vocational Education to examine the interpretability of the available outcome data and to examine other outcome measures. Specifically, the problem of interpreting vocational education outcome data was addressed through two objectives:

- To verify the inconsistent usage of the terms "vocational student" and "relatedness" among state and local vocational education agencies.
- To determine how different definitions of "vocational student" and "relatedness" might affect the interpretability of vocational education impact data.

Project Activities

In order to undertake the project objectives and disseminate the findings, the project was divided into four primary activities.

- **Case Study.** A case study was conducted to identify and describe the factors associated with the differences in job placement rates in field trained and related fields as reported by states. The issue areas considered in the case study were (l) background, (2) definitions of key terms, (3) process of collecting placement data, (4) utilization of placement data, and (5) placement function.

- **Commissioned Papers.** Three topics were selected to be dealt with in the form of commissioned papers. The topics and the authors were:

    1. Perspectivism in Choosing and Interpreting Outcome Measures in Vocational Education—Mary Bach Kievit

    2. Outcome Standardization for Compliance or Direction: The Critical Distinction—Donald W. Drewes

    3. Criteria Against Which Vocational Education Should Be Held Accountable—Grant Venn

- **Vocational Education Measures: Instruments to Survey Former Students and Their Employers.** A handbook of instruments to measure (l) job satisfaction, (2) job performance, (3) former students' perceptions of vocational training, and (4) employers' perceptions of students' vocational training was prepared. The handbook was designed to assist the practitioner by providing abstracts of instruments, copies of instruments, and a suggested method of choosing an instrument that fits the practitioner's purpose. It also describes the concepts and complexities of measuring the four categories of instruments included in the handbook.

- **National Conference.** The National Conference on Outcome Measures for Vocational Education was held August 16-18, 1978 in Louisville, Kentucky. The material in this publication is drawn from presentations made at that conference.

Collection of Papers

In an effort to disseminate as widely as possible the ideas and information about interpreting vocational education outcome measures obtained during the project, the four major papers presented at the National Conference on Outcome Measures for Vocational Education have been brought together into a single volume. Specifically, the three commissioned papers and the address by John Jennings were selected for inclusion in the publication. The papers raise important issues regarding the collection, analysis and use of vocational education outcome data. It is hoped that the collection as a whole will provide an overview from which the reader can select those ideas which can be adapted to meet individual needs.

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PERSPECTIVISM IN CHOOSING AND INTERPRETING OUTCOME MEASURES IN VOCATIONAL EDUCATION

Mary Bach Kievit

Purpose and Complexities

During the period of the late sixties and into the seventies, some writers have captured public attention and turned that attention to some of the negative outcomes of salient social and individual values. *Future Shock*, *Zero Growth*, by the Club of Rome come immediately to mind, as does a more recent volume *Small is Beautiful*. These books, among others, are manifestations of reexaminations of social directions, social values, and the implications of these for the present and the future. These reexaminations usually include some "pointing of fingers," attributing blame, and education at all levels has had its portion of these. There is a shared concern in many sectors for answering the question of "How does what we produce, provide, accomplish, match the needs, wants, expectations of our constituencies?" In the educational arena the data to provide highly reliable and valid answers are sparse. The wisest answer from many vantage points is to focus on processes for seeking the kind of data which will provide these answers. Yet it is, nonetheless, valuable to ask, "What do we know?" and "What can we reasonably infer from what we know?" What are the implications for action?

The three-fold purpose of this paper is, to explicate as much as existing knowledge enables us to, the values of the various groups directly concerned with vocational education; to analyze the impact that these values have on the perspective through which members of each group view vocational education; and to ascertain the implications for choosing and interpreting outcome measures in vocational education.

The task as delimited sounds relatively simple and straight forward. In reality, it did not prove to be so. Delving into diverse streams of literature showed that there are many definitions of values. The information available on values is very uneven in terms of the groups from which the data have been derived; the time period at which it has been obtained; and the direct relevancy to vocational education of the definitions of values and hence, the data collected.

Some other concerns emanated from the multidimensionality of groups and individuals. Each person holds values for her/himself as an individual, and holds values relative to the many roles each performs, e.g., as educator, but also as parent; as legislator concerned about the social welfare, but also as legislator concerned about reelection. In brief, there is a multidimensionality about each person and about the concerns held by various groups that make definite statements hazardous, as guidelines for action in this area, and compel us toward tentative statements to be tested for soundness in the diverse situations to which a concern for values has import.

In an era touted for the rapidity of change, the question of stability and change must be confronted directly both in the longer historical context and also within the lifetime of individuals. While considering the question of stability or change, the nature of change and the sources of change come into play. Change can be said to occur when one moves from the diffuse, the general, to the differentiated, the specific. But change of this nature does not preclude changing the degree of importance accorded one value as it comes in conflict with another; or indeed of ceasing to value what had been valued.

Education presumably has some part to play in change. Opinions as to what that part is and should be varies among educators. Some hold that education should inculcate specific values. Others hold that education provides the experiences and the substance from which individuals form values, in a highly individual way, so that education influences value formation only indirectly. Still others contend that the proper role of education is to directly facilitate the clarification of values, and some rational examination of the implications of holding specific values. As one seeks tentative answers to these questions, one must make decisions about the nature of evidence which one will employ. For the literature provides evidence emanating from a deductive mode, the introspective, logical, analytical, philosophical, and the behavioral science.

In addition, acceptance of a specific definition of value, and clusters of values, enables one to use data as indicators of the presence or absence of valuing and in so doing to draw inferences.

In each case, the delineation of the reality investigated, both through the definitions, and the subsequent operationalization into systematic measures, creates inherent limitations. Self-report measures, for example, raise the serious question as to the level of awareness of individuals regarding their values, the extent to which predetermined labels have, in fact, distorted the reality of values for specific individuals and specific groups. Having shared with you some sense of issues to be resolved in the process of developing a position, let me now share with you the results of that process.

Conceptual Framework and Types of Evidence

The conceptual framework within which I chose to inquire is that of the behavioral sciences. Sociologist Robin Williams is rather generally recognized as one of the more profound thinkers among sociologists and has provided a thoughtful analysis of value orientations which exist in the American culture. Social-psychologist Milton Rokeach has built upon his own inquiry in beliefs and attitudes to study further the nature of values held by individuals, and the way in which individual values differ among persons based on inclusion in socioeconomic categories, occupational categories, reacial and religious categories among others. Rokeach is knowledgeable of Williams' work and draws upon and expands some aspects of it. Another approach closely linked is that of Abraham Maslow, the humanist psychologist who postulated a hierarchy of basic sets of human need.

Relative to the types of evidence, greatest weight has been given to knowledge derived from empirical data through systematic research. Due to the limits of this source, other types of data have been utilized as a basis for drawing inferences. Some of these are in the category of informed opinion. Some are derived from testimony to legislative committees. Some are quite impressionistic based on personal experiences with parents and students through time. In brief, as a result of the significance of the subject, I have employed all of the information I had. Thus, in Spinozian terms, it ranges from hearsay, through vague experience, knowledge reached by reasoning, and by immediate deduction and direct perception, with an effort to use the last two as much possible.

Values: What Are They?
How Do We Discern Them?

Values, according to Williams, is "any aspect of a situation, event, or object that is invested with a preferential interest as being 'good,' 'bad,' 'desirable' and the like." (Williams, 1956, p. 374) Values have a conceptual element; they are affectively charged representing actual or potential emotional mobilization; they are not concrete goals of action but criteria by which goals are chosen; they are important, not trivial or of slight concern. (Williams, p. 374)

Social values are regarded as matters of collection welfare by an effective consensus of the group. In sum, both for groups and individuals "values are modes of organizing conduct—meaningful, affectively invested pattern principles that guide human action." (Williams, p. 375)

Values are viewed as constituting a type of continuum. Values concern the goals of action in addition to being components in the selection of means to achieve the goals.

Empirically some of the evidences of values are: the choices made; the directions of interest (that to which people pay attention); statements of what is valued, emotional reactions to statements, implicit premises—not stated because they are taken for granted, explanations and reasons given for conduct; rewards and punishments, i.e., social sanctions. (Williams, pp. 373-382)

Williams differentiates between dominant and subordinate values noting that for a group or system as a whole these criteria are useful:

- extensiveness—proportion of population and activity manifesting the value,
- the duration of the value—has it persisted through time,
- the intensity with which the value is sought or maintained—e.g., promptness, certainty, and severity of sanctions when the value is threatened, and
- the prestige of value carriers, persons, objects or organizations considered to be bearers of the value. (pp. 382-383)

In a pluralistic society such as this, precise and detailed characterization of values can only be done for carefully delimited segments of society. In view of the need, however, for some core values for any society to have the integration essential to survival, major value orientations are apparent. Different groups within society may place the value components of such major orientations in different positions of dominance and subordination and may omit some, and add others.

Major Value Orientations

Utilizing the above criteria, Williams, in 1956 examined available evidence to specify major value orientations in American society. The validity of his analysis is attested to by the commonalities found with analyses completed in the 1970's to address the question of stability and/or change in values in America. These major value orientations

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have import for this inquiry because the values of the various groups concerned with vocational education emanate from this social-cultural base.

Major value-orientation, as ideal types and kinds of central tendencies by which to note departures, according to Williams are:

1. Achievement-success: stresses personal achievement especially secular occupational achievement, and acquisition of generally accepted symbols of success.

2. Activity and work: mastery and domination of the external world with directed and disciplined activity in a regular occupation a particular form of the basic orientation.

3. Moral orientation: an ethical quality of a particular type that includes principles to work hard, lead an orderly life, to have a name for integrity and fair dealing, not to spend one's substance in reckless display, to have the resolution to carry out the purposes you undertake.

4. Humanitarian mores: disinterested concern and helpfulness, including personal kindliness, aid and comfort, and organized philanthropy.

5. Efficiency and practicality: unites activity and substantive rationality, focusing upon a choice of the lost effective means for a given end. Manifestation is the appreciation of technical values in skilled trades, technical, quasi-professional and professional vocations with systematic indoctrination in the standards of "doing a good job." "Practicality as to concrete goals of action correspondingly has meant the canalyzing of action in the service of those specific life models most highly approved in the general culture--broadly speaking, rational, strenuous, competitive striving for personal validation through occupational success" (p. 403).

6. Progress: emphasis on the future rather than the present or past, receptivity to change, faith in the perfectibility of the common man—optimism.

7. Material comfort: high level of material comfort is sought after; standard of living has its attached meanings however for symbols of success, competence, and power.

8. Equality: a value complex subject to much strain includes equality in interpersonal relations as a goal and standard—with compromises in practice; equality of specific formal rights as in the strong and continuing strain for equality for legal rights for all citizens; equality of opportunity to economic freedom and individual achievement rather than equality of condition in either economics or achievement.

9. Freedom: for the individual as an integral agent relatively autonomous and morally responsible. The corollary is that a great variety of forms of personal dependencies constitute a loss of freedom. For example, "freedom of thought so that the truth may prevail; freedom of occupation so that careers may be open to talent; freedom of self-government, so that no one may be compelled against his will" (Becker—Williams, p. 434).

10. External conformity: in a very heterogeneous culture conformity in externals helps to make it possible to continue the society in spite of many classes of interests and basic values.

11. Science and secular rationality: an emphasis reflecting the rationalistic--individualistic tradition; i.e., disciplined, rational, functional, active, requiring systematic diligence and honesty. It is compatible with strivings for mastery of the environment, denials of frustrations and refusals to accept the idea of a fundamentally unreasonable and capricious world.

12. Nationalism—patriotism: widespread satisfaction of people with the country.

13. Democracy: based on the implicit belief in natural law as opposed to personal rule and in the moral autonomy of the individual with a theme of democracy as a procedure in distributing power and settling conflicts.

14. Individual personality: the valuing of the development of individual personality to the end that the person is independent, responsible, and self-respecting and thus worthy of concern and respect in one's own right; in sum, valuing a certain kind of individual.

15. Racism and group superiority: the ascription of value and privilege to individuals on the basis of race or particularistic group membership according to birth in a particular ethnic group, social class or related social category. A pervasive and powerful counter-current to the values of equality, humanitarian values, political freedoms.

Change or Stability?

Williams formulated these major value orientations in 1956. Have these persisted? Have these changed? Alex Inkeles (Change, 1977, p. 25) has examined American perceptions to look for continuities and discontinuities with the past. A comparison of the areas he treats as "perceptions" with the major value orientations of Williams shows a number of commonalities. Inkeles states ". . . the national profile is still consistent and often contrasts sharply with that of other nations, according to substantial psychological test results and public opinion data." The accumulating evidence is unmistakable: "Over a span of at least 200 years there has been a marked, indeed a remarkable degree of continuity in the American national character. But the evidence tells us too that certain prominent changes are also occurring. . ." (p. 26).

One of the continuities is the continued intensely held belief in the special qualities of the American system--a special brand of patriotism. With 12 percent preferring to live in some other country (lower than for nine European countries) the large majority were committed to this country even in the light of a sharp erosion of confidence in basic institutions, including government.

Americans still believe in the power of an individual to shape his or her future. This belief is held not only by professionals and business people but regularly by two-thirds to three-fourths of American blue collar workers. The emphasis on self-reliance and independence continues.

The majority of Americans believe that most people can be trusted; that we can transform the physical and social world and even human nature over to our own satisfaction. The majority have optimism in their personal economic futures; an openness to new experience and innovation extending beyond the technical and mechanical to the social and sensate; a continuing propensity to assert their rights of personal autonomy over public control. Inkeles considers the evidence and concludes that also continuing are: "a sense of intrinsic worth and a conviction that one is equal to all others before the law; individualism, restless energy; pragmatism; brashness or boastfulness; this wordliness; a preference for the concrete; and a certain discomfort in coping with aesthetic and emotional expression" (p. 29).

Changes according to Inkeles include: "a substantial and steady increase in tolerance of religious, sexual, and racial differences; increase in inner-direction versus other direction; a shift from the number of people who considered the most important attribute of a job to be its intrinsic importance or its promise of advancement to high income and shorter hours as being more attractive. (Evidence of valuing the ability to purchase symbols of success, achieve material comfort and have greater freedom, through more discretionary time?) Seniority and experience were related as the basis for getting ahead in their line of work by more persons than those mentioning hard work and persistence. The consumption ethic seems to have replaced the Protestant ethic of saving and investment, as evidenced by the use of credit. Although he notes what may be some strain and conflict through some seeming inconsistencies, he believes that the changes do not undermine the foundations of the system (p. 32).

Vocational-Technical Education as a Means of Achieving Goals Consonant with Social and Individual Values

Vocational Educators, Legislators, Employers

Education, generally, and vocational-technical education, specifically have been and continue to be valued means of achieving goals directly related to social values which take form in individual values. Its continued support is linked to its credibility as an effficient and practical means to achieving those social and individual ends. That credibility is not exclusively based on hard data from evaluative research, but, presently, of equal or greater significance is, the belief of a sufficient number of vocational-technical educators, employers, parents, and students that it contributes significantly to social and individual goals. Furthermore, the valued social and individual goals and the goals to which vocational-technical education is a means have remained fairly stable over the past fifty years, in the most general sense. Since 1963 however, vocational-technical education has been charged quite explicitly to address itself to extending its service to more categories of persons viewed as having the right to and need for vocational education to further the social values of equality of opportunity through accessibility.

Among the acknowledged leaders of vocational educators and leaders of the constituencies served are Charles Prosser, Terrel Bell, James Rhodes, elected official (businessman and legislator), John W. Thiele, and Roman Pucinski of the National Advisory Council on Vocational Education, and William Pierce, former Deputy Commissioner for Occupational and Adult Education.

In their work *Vocational Education in a Democracy*, Prosser and Allen attribute the development of vocational education to the valuing of efficiency applied to another value, i.e., training and acquisition of occupational "intelligence" which exceeded that present in the old "pick up method" or haphazard vocational training. Furthermore, education generally is viewed as the means for securing stability and progress in a democracy, with vocational education a special form in its relation to the development of the material and human assets of a people (p. 19). (Mastery over the external world.)

Vocational education conserves natural resources and human resources (efficiency and practicality.) The first by promoting, disseminating and transmitting skill, knowledge and the results of invention and by conserving human effort. The second it achieves by promoting morale and intelligence by workers (p. 19). Indeed Prosser and Allen assert that no form of vocational education worthy of the name would confine itself to manual skill and general technical knowledge. Vocational education must also give that "special thinking intelligence, 'I' which functions in the given occupation" (p. 44). "This kind or use of man's job intelligence is shown whenever a master of any occupation brings to bear all his knowledge to think his way through some difficulty that must be overcome." ". . . Merely organizing occupational experiences for training as a substitute for the old pick up method is some improvement. But it does not get us very far unless both processes and functioning facts are so taught that they give understanding to the worker and habits of resourceful thinking with these facts in the processes, situations, and opportunities of his employment. Only in this way can the native ability of any people be utilized to the full in the economic field" (pp. 44-45).

James A. Rhodes, Governor of Ohio, cites as social ills (unachieved social values) unemployment, welfare, and lack of skills. He urges support for occupational education as a means to address these social ills (Rhodes 1969, pp. 13, 16). With a different emphasis from Prosser, though not inherently contradictory, he states that vocational education gives definite purpose and meaning to education by relating it to occupational goals. "It provides the technical knowledge and work skills necessary for employment, but it is more inclusive than training for job skills. It develops abilities, attitudes, work habits, and appreciations which contribute to a satisfying and productive life" (p. 44).

"Vocational education contributes to the general education needs of youth, such as citizenship, respect for others, and acceptance of responsibilities; but," says Rhodes, "it makes its unique contribution to the field of work" (p. 44).

Bell, in 1975, in testimony before the Committee on Education and Labor, acknowledged the legitimacy of assessing vocational education, in part, by the match between vocational education programs and employment opportunities. He maintained, however, that it would be an error to judge the success of all vocational education by this criteria alone. "We feel" he stated, "that vocational education programs should be perceived as an integral part of the educational system of the country . . . and as such is responsible to assist in increasing and improving basic cognitive skills, heightening career awareness, improving the understanding of a variety of work environments and in many instances actually motivating students to remain in school at the secondary or postsecondary level as well as providing specific occupational skills" (pp. 308-309). He added that the two criteria of measuring success in vocational education programs by ratio of program completions to enrollments and the employment rate of graduates lose sight of these other aspects of vocational education.

What are the commonalities and differences between these expectations of leaders in vocational education and representatives of the policy and one consumer of vocational education namely the employer? One noted authority on business and management provides one source of information. Drucker (*Management*, 1974, p. 267) brings together social and individual values when he describes the prerequisites for responsible workers and parenthetically states that the fundamental reality for every worker is the eight hours or so he/she spends on the job through which the great majority has access to achievement, to fulfillment and to community. In order to achieve, the worker must be able to take responsibility for the job. To do this requires: (1) productive work; (2) feedback information; and (3) continuous learning (p. 267). Productive work is based on knowledge, analysis, and skill. Feedback information about the worker's performance as against standards is the major reinforcer and tool of the worker for measuring and directing herself/himself. Relative to continuous learning, Drucker notes that continuous learning does not replace training. "It has different aims and satisfies different needs. Above all, it satisfies the need of the employee to contribute what he himself has learned to the improvement of his own performance, to the improvement of his fellow worker's performance, and to a better, more effective but also more rational way of working." Continuous learning comes to grips with the two basic problems of resistance of workers to innovation, and the danger that workers will become obsolete. It is as appropriate for clerical work as for manual work and knowledge work. The work group has to be seen and has to see itself as a learning group (p. 270).

A survey of employers in New Jersey was reported in 1976 (*Task Force on Competency Indicators and Standards*, Rutgers Research Team, October 1976) as a part of an effort to identify minimum basic skill requirements for employment for high school graduates. Small, medium, and large firms were surveyed to explore the area of employment practices to determine certain basic parameters. It was found that "requirements for employment were most typically job-related and are becoming more so as a result of recent court rulings. Very few general academic requirements were found although some firms indicated they preferred high school graduates particularly for clerical positions. For some skilled occupations trade school training and/or apprenticeship training is required. High school graduation was often seen as a measure of dependability and 'stick-to-it-iveness' rather than as a guarantee of basic skill mastery" (p. 14).

Communications and arithmetic were commonly stated requirements for clerical positions and were considered important for a wide range of jobs as well. Firms using tests are more likely to be large and to have specified requirements for each job. Such tests are practical and job-related as opposed to general academic tests employed in the past since courts have ruled that tests must have demonstrated validity for the job.

In sum, commonalities do exist among these producers and consumers of vocational education, however, differences on some points of significance appear—specifically difference in the narrowness versus the breadth of program objectives; in one sense narrow training versus education for occupational activity; the explicit attention to educating in processes that have more enduring value as well as the immediately relevant job specific skills. Taking into account the customary gap between ideals and practice, the narrowly conceived outcomes illustrated by the GAO study, the emphasis in the legislative mandates for preparation for employment, and the more frequently used outcome measures of job placement, length of time to gain employment, and employer satisfaction, one can speculate that the narrow view is in all likelihood more pervasive, more prevalent, and more predominate in program implementation as well as evaluation.

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The narrow expectations seem based most closely on the values of efficiency and practicality in the short term. Whereas the development of "occupational intelligence" in Prosser and Allen's term attend to achieving values of efficiency and practicality over the long term, individual freedom, intrinsic valuing of individual personality, and facilitate achievement and success through work.

Parents and Students: Consumers With Values

Rokeach (1973) defines values as the cognitive representations and transformations of individual needs and societal and institutional demands. He thus clarifies and adds a dimension to Maslow's hierarchy of needs as motivating forces as he proceeds to differentiate terminal and instrumental values. Terminal values are end states, while instrumental values are modes of behavior some of which are moral values, others of which are competence values. Value systems refer to the ranking of terminal values along a continuum of importance; instrumental values are viewed as being ranked also. Rokeach found that adult men and women ranked the following terminal values highest.

Rank	Men 665	Women 744
1	World at Peace	World at Peace
2	Family Security	Family Security
3	Freedom	Freedom
4	Comfortable Life	Salvation
5	Happiness	Happiness
6	Self-respect	Self-respect

Instrumental values ranked as the top six were:

Rank	Men 665	Women 744
1	Honest	Honest
2	Ambitious	Forgiving
3	Responsible	Responsible
4	Broadminded	Ambitious
5	Courageous	Broadminded
6	Forgiving	Courageous

As Williams noted, and Rokeach implemented, detailed descriptions of values must take into account various social categories such as income, education, race and age. An analysis of values compared by income and then by education found that persons of low income and limited education held much the same values some of which differed from those with high income and higher levels of education. A world at peace, family security, and freedom ranked high rather consistently across all categories. A comfortable life, self-respect, and friendship tended to be ranked higher by those with lower incomes and less than high school education than were ranked by those with higher incomes and who were high school graduates and above. Instrumental values ranked high by those with less than high school education were: honest, clean, ambitious, forgiving, helpful, and courageous. Being responsible was ranked high by those having completed some high school and above. Relative to race, when income and education were held constant, the one major difference was the higher ranking accorded equality, second for blacks and twelfth for whites (Rokeach, pp. 57-72).

For these data to have any import for the concerns of this paper, it is necessary to make several assumptions. First we must assume that Rokeach's data have some limited generalizability. Second, we must assume that men and women look to occupations as one means for achieving these values, with the corollary that vocational education programs interpreted in terms of these values would be more highly valued as a means.

If these assumptions are at least reasonably tenable, then the findings have some utility for conceptualizing outcome measures which relate to the efficacy of vocational education in achieving goals derived from these values.

In an effort to gain insight into the values of secondary age students, the above data on adult values have utility only if we can accept the premise that these adults as parents, will desire for their children some of these same values. If so, then interpretations of program characteristics, goals, and evidence of outcomes could be developed with close attention to the conditions and behaviors which are associated with attainment of these values. The recent emphasis on educating in life skills for productive participation in society, as a high school graduation requirement lends some support to such a premise.

As for secondary age youth, themselves, Rokeach provides some data, inconclusive and limited however, regarding the salience of particular values for different ages at different developmental stages. Terminal values that generally are ranked in the top eight by eleven, thirteen, fifteen and seventeen year olds are: a world at peace; freedom, family security (lowest for seventeen year olds); friendship; equality; happiness; and a comfortable life. Relative to instrumental values, honest; loving; forgiving; rank high for eleven, thirteen, and fifteen year olds. Some significant departures between eleven year olds, thirteen, fifteen and seventeen year olds occur with increased value placed by these older groups on being ambitious, and responsble and then for the fifteen and seventeen year olds, being capable and independent.

Maslow's hierarchy of sets of needs may be useful in analyzing some of the stronger needs in relation to specific age groups of students.

These sets are, in order of lower and higher needs, physiological; safety; belongingness and love; esteem; and self-actualization. Examined in relation to Rokeach's findings, we find some congruence between terminal and instrumental values and the first four sets of needs. With the fifteen and seventeen year olds moving nearer to that age, where a greater degree of economic self-reliance is socially approved, terminal and instrumental values come into play that contribute to meeting one's own physiological needs and safety, as well as enhancing esteem.

Any work on values emphasizes the complex interaction between value complexes as motivating force in choosing among alternative courses of action, objects, or goals. Hence to treat terminal and instrumental values as singular even for purposes of analysis, introduces the hazard of dangerous oversimplification. For in the real world of action, conflict between value sets can and does occur, and various combinations of choices can lead to a potential optimizing of satisfactions related to several values. As a useful illustration, let us consider the generally low status of vocational education. A status conceded and deplored in such statements, frequently quoted, that we must eliminate the belief, too frequently held, "that vocational education is for other people's children." A proposition which is accorded the status of almost, if not quite, being a sociological principle is that the status of a service group, e.g., educators, social workers, physicians, reflects to some degree the status of the group served. Hence, teachers prefer to teach children from affluent homes, physicians are more numerous in affluent communities; and social workers, serving the poor, and disenfranchised have relatively low status among professionals and salaries reflect this. Vocational education prepares individuals for occupations that tend not to be lauded in the highly visible world of the mass media. Indeed with the differentiation of work and its being closeted in plants, factories, and offices, general knowledge about these occupations, as well as some higher status ones, is relatively sparse except for those areas in which friends and relatives are employed. The fact that secondary youth have been well socialized to this status dimension was demonstrated in studies of adolescent choices for work. Several researchers concluded that based on the distribution of workers in the work force, the education and ability levels required, the choices of large numbers of adolescents had to be labeled, in the aggregate, as unrealistic since professional work was cited by large numbers. For the field, at large, the relative status may, in part, contribute to the lower level of support from federal sources when compared with support for higher education relative to numbers served, although it is vocational preparation for what are generally higher status occuaptions.

If we review the major value orientations delineated by Williams, such as achievement-success; activity-work, material comfort, and freedom through personal autonomy, I believe that the degree of attainment of these values in generally accepted social terms are optimized in some of the higher prestige occupations. Pehaps even more important is that most people implicitly accept the premise that the best optimizing occurs though involvement in higher status occupations. To the extent that these are valid observations, it follows that in choosing vocational education as the means for attaining some of these social values manifest as personal needs and values, many individuals have moved from the most preferred choices to the less preferred choices. An important qualifier to all of this, however, is the proposition that membership in socioeconomic groups tends to place a ceiling upon aspirations, and has been viewed as a social phenomenon that helps to reduce extreme feelings of frustration and deprivation. Thus, parents and family friends continue to be role models and prime influences in choice of and employment in occupations. Even given this qualification, there is evidence that a number of parents derive less pride from their children being enrolled in vocational education than in their continuing in a general or college preparatory curriculum with little or no prospect of further education in the offing. Given these conditions, there would appear to be much merit in interpreting the value and outcomes of vocational education, as means to these valued ends, quite explicitly for parents and students. There is, I suggest, too little mention of the likelihood that vocational education for some is preparation for work which will be transitional and in turn a means to other statuses. Such an approach may engender some risks given the GAO and support in some quarters for the position that vocational education can be justified almost exclusively by job placement--and that in occupations for which trained, or in a related occupation.

Outcome Measures in Evaluating Vocational Education

Evaluation and evaluative research need to be differentiated for fruitful consideration within the parameters of this paper. Suchman (1967) proposes the "distinction between evaluation as the general process of judging the worthwhileness of some activity regardless of the method employed and evaluative research as the specific use of the scientific method for the purpose of making an evaluation" (p. 31). He continues that the range of variation can be indicated by "defining evaluation as the determination (whether based on opinions, records, subjective, or objective data) of the results (whether desirable or undesirable; transient or permanent; immediate or delayed) attained by some activity . . . Designed to accomplish some valued goal or objective (whether ultimate, intermediate or immediate, effort or performance, long or short range)" (p. 32). Suchman points out that the evaluation process moves from value formation, to goal setting, to goal measuring, identifying goal activity, to putting goal activity into operation, to assessing the effect of this goal operation, and back to value formation.

Specifically, what values are addressed in the outcome measures recommended for use in program evaluations and system evaluation, derived by aggregating outcomes from program evaluation? The source for these recommended outcome measures is "A System for Statewide Evaluation of Vocational Education," The Center for Vocational and Technical Education. In broad categories, these outcome measures include: (1) descriptions of characteristics of individuals served by the program and, in aggregate, the system; (2) the successful completion or early departure from the system; (3) acceptance--exclusion rates; (4) employment and earnings history and current status; (5) aspirations for further education; and (6) satisfaction with program. Among the major value orientations evident in the choice of these measures are: attainment of work versus unemployment; earnings are one indication of level of material comfort, achievement and success; satisfaction levels and interest in further education acknowledge the intrinsic worth and a degree of personal freedom through autonomy of choice and further development; admission, exclusion, characteristics of persons served, length of involvement, and conditions of departure address the value of equality of opportunity through evidences of accessibility. Attention to the means value of efficiency and practicality underly the data collected regarding program length, use of advisory councils for evaluation, current manpower data for program planning, facilities, and inclusion of cooperative work experience or simulated work experience.

Statewide system evaluations are supplemented by program and local district evaluations. Some such efforts have included measures of attitudes towards work, work-related behaviors, self-concept, source of interest in work, changes in self-evaluation in relation to work (Nelson and Jacoby 1967; Kievit 1973). These outcome measures address more specifically the major value orientation of freedom through personal independence, self-confidence, and autonomy, and the intrinsic worth of individuals as warranting development in the broader aspect of Prosser's "occupational intelligence." These are at the most elementary level, however, and limited rather than comprehensive. Although the number of sources of outcome measures used has been limited, this primarily grows out of my immersion in evaluation in vocational education which leads me to believe that these outcome measures accurately illustrate the range of measures most frequently used. Outcome measures which address individual values related to freedom, achievement and success defined in individual terms relative to aspiration levels, and individual personality such as of intrinsic worth are employed in systematic evaluative research less frequently and in more limited evaluative studies. These are more likely to be addressed in evaluation which includes heavy reliance upon informal observation, subjective assessments of spontaneous expressions of students, parents, and employers. Evaluation at this level is more likely to occur without explicit awareness of the full range of values which could potentially be furthered in attainment, and with little attention to the nuances and shadings in communication with members of various constituencies which point to the values most salient to that person at the time.

The value of the initial distinction between evaluation and evaluative research resides in facilitating greater clarity regarding the purpose of evaluation in a specific situation, and the intended consumer of the report as this has implications for choice of outcome measures and data to be collected. Administrators, program planners and evaluators, and teachers should be a team of producers and consumers of evaluative research. This team should be used as a basis for fine tuning the organization of educational experiences to provide the optimal outcomes in terms of manual skill, technical knowledge, and occupational intelligence. In addition, administrators, counselors, and teachers are strategically placed for explicitly linking program objectives and outcomes with individual values of students and their parents. Administrators at the local level and particularly those at the state level need to be attentive to interpreting the outcomes of system evaluative research in terms of valued means which characterize vocational education, and the valued ends to which vocational education contributes.

The choice of outcome measures should be reexamined and expanded to more specifically seek information regarding efficiency and practicality not only in the short term but also over the long term. The contribution which vocational education has made to the individual's sense of attaining, to some measure, the values of family security, a comfortable life, a sense of expanded freedom through expanded options among which to choose, with a sense of confidence, self-respect, equality, and social recognition should be documented. The issue is not whether these values might not have been attained by other means--they probably would have to some degree but rather to demonstrate that vocational education is one means among others, equally effective in most cases and more effective than other means in some cases. This type of documentation would be particularly rich as a basis for information to disseminate to parents and potential students, as well as legislators concerned about the opinions and views of their constituencies.

Interpretation of outcomes to this last group might be more effective if couched in terms of equality of opportunity through differentiated and expanded options for many: the sense of success by virtue of having the capacity to purchase more of the symbols of success, through higher earnings, even if the work is mid-ranged to low in prestige.

Documentation of this nature would seem to call for tracking of vocational education students through time, at various regular intervals. The case study method with interviews would afford the greater likelihood of gaining insight in the contribution of vocational education to value attainment. The diversity of the life styles surfacing, the interplay between work and education, job changes with impact on value attainment, would be informative and add much to our understanding of the impact of individual programs and state systems.

Legislators and Board Members: Audience for Evaluation Research and Evaluation

Legislators and board members are concerned about accountability to their various constituencies. One criterion for accountability is her/his effectiveness in promoting and sustaining federal, state, or local policies and programs which are perceived to be beneficial. Benefits are related to the achievement of goals linked to values. In view of the preceeding examination of values, it seems reasonably evident that values most salient for these groups include an employable rather than unemployable constituency, constituency material comfort vs. material impoverishment, independence of individuals vs. dependency, and equality of opportunity, and equal access to programs. Credible documentation that vocational education is contributing, efficiently and practically, to attaining these ends for an important segment of a legislator's constituency will provide a more persuasive rationale for support. Evaluative research and evaluation should be the basis for providing this documentation.

Evaluative research should include the placement, job satisfaction, admission and completion data elements as well as the others cited earlier. It should be supplemented, however by some systematically obtained case materials which provide "close-ups" of what the data mean in individual and human terms. Data obtained from case studies should be targeted specifically on the values of individuals enhanced by vocational education. The results should be couched in "value" terms when reported.

Report format might be modeled (with some adaptation) after the annual financial reports of a large corporation. The better ones of these show the statistical data succinctly, and elaborate on the meaning of these statistics for the central concerns of the firm. The narrative could include the "close-up" of individuals and groups served with some general statements indicating the typicality of the "close-up" for the total population served. Goals only partially achieved, but the subject of imaginative planning and continued pursuit, should be included and clearly presented as evidence of shared concern for efficiency and practicality as a means to the end values.

Employers: Audience for Evaluations

Employers value productive workers as essential to increased efficiency. Hence, evaluations should attend to those program-outcomes which are linked to student behaviors essential for rapid integration into the job setting with full productivity within the shortest time period feasible: habits of work, such as knowledge of safety measures, dependability that reduces loss of time, a fairly precise indication of level of skill performance to be expected from specific vocational programs, and the adaptability and capacity to learn is essential for responsible workers. The values of employers which vocational education contributes to are comparatively narrow.

Modes of reporting might well be in the form of an inventory of these behavioral outcomes from vocational education programs. The proportions of graduates who achieved minimum levels, clearly defined, in the various areas could be reported in such a format.

Administrators and Teachers: Audiences for Evaluative Research

Evaluative research should be designed to link assessments of outcomes to the attainment of individual values of students, both present and emerging. Close attention needs to be given to the controllable variables which may be significant points of intervention for teachers in structuring curriculum, classroom management, and instructional strategies to increase the efficiency of learning for many students, increasing the success rate for those admitted, and enhancing attainment of the personal values of students for (a) feeling capable, (b) achieving a sense of esteem from self and others, (c) sharing friendship, and (d) increasing individual freedom through decreased dependency and increased capability for independence in a number of spheres through the attainment of skill, problem solving abilities, and earning potential. Setting goals, and monitoring progress or lack of progress toward these goals are essential to evaluation of ongoing program implementation designed from evaluative research. Routinized feedback should be an important part of the process. The feedback should include summarizing quarterly reports and an annual report. Some quantifiable data of use would include attendance rates, dropouts, measures of skill performance in vocational area, anecdotal observations regarding problem-solving skills and those behaviors indicative of goal attainment relative to the values cited above.

Students and Parents

The values of individuals to which vocational education is one means include family security, freedom through economic independency, self-respect, and material comfort. Work and preparation for work are processes through which individuals develop and exercise friendship, responsibility, capacity and ambition. Evaluation which is couched in "close-ups," vignettes, and anecdotal types of communication can effectively link outcomes of vocational education to individual values. A series of well-designed, colorful posters, each focusing on a single value and multiple program processes and outcomes which are related is one reporting format. Spot public service announcements on radio and brief film clips on television designed on the same rationale could be more widely disseminated. News releases in local daily and weekly newspapers leading off with a "close-up" for human interest on one or two values and concluding with statistical data regarding the typicality of the achievement could also be effective. The focus and reporting made could be similar for parents and students with slightly different points of emphasis. Young students in secondary programs are less concerned with family security but are concerned with acquiring freedom through independence, being capable and developing friendships. Data obtained through case study and interview are best suited for dissemination to these groups. In conclusion, as vocational educators concerned with linking programs and program outcomes more closely to related values of our various audiences, we should direct attention to ways and means of ascertaining those values of persons and groups of immediate concern. This paper provides a general framework, a spring board, so to speak, from which to be better attuned to appropriate starting points in seeking information on values. It is the broad-brush stroke and not the finely detailed picture needed for most effectively linking particular programs in vocational education to values--social or individual. To seek such linkages is a worthwhile direction. For in the process, individual purposes and legislative intent may be more clearly articulated, more subject to reexamination and positive modification. Vocational education may become more effective as a means to attaining social and personal values.

OUTCOME MEASURES RELATED TO INDIVIDUAL AND SOCIAL VALUES

	Individual		Individual	Major American
Outcome Measures	Terminal	Process	Needs	Value Orientations
Work - Earnings	Comfortable life Sense of accomplishment Freedom Self-respect Social recognition	Ambitious Capable Honest Independent Logical Self-controlled	Physiological Safety Esteem Self-actualization Responsible	Achievement-success Activity-work Material comfort Freedom through independence, self-confidence, personal autonomy Efficiency and practicality
Access, enrollment and completion	Equality Freedom of choice		Belonging Esteem	Equality of opportunity Humanitarian mores Efficiency-practicality Democracy Individual personality
Aspirations for Further Education	Material comfort Sense of accomplishment Freedom—Choice Independence Self-respect	Ambitious Capable	Self-actualization	Achievement-success Efficiency-practicality Material comfort Equality of opportunity Freedom
Satisfaction with Program	Pleasure Happiness			Humanitarian mores Efficiency and practicality Individual personality
Program Characteristics • Work experience • Manpower data • Advisory councils • Length				Efficiency and practicality

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EVALUATING VOCATIONAL EDUCATION: A CONGRESSIONAL PERSPECTIVE*

John Jennings

Tonight, I would like to talk about two things: (1) the context in which the new evaluation requirements for vocational education came about in the Vocational Education Amendments of 1976, and (2) the nature of the requirements themselves.

I know you are familiar with the history of vocational education so I will not review its development all the way back to the congressional enactment of the Smith-Hughes Act which initiated vocational education as we know it today. I will skip the first years and start with 1963 when a landmark vocational act was passed. The 1963 Act had the effect of broadening federal support for vocational education, and focusing more attention on it. The 1968 Amendments further broadened that Act and brought about some updating in programs through authorizing research funds and exemplary programs. These amendments also focused attention on special populations such as the disadvantaged, the handicapped, and on postsecondary students, whose needs Congress felt at that point in time were not being adequately addressed. Then, more recently, the 1976 vocational education legislation was passed which is why you are here tonight.

The Education Amendments of 1976

The 1976 Amendments build upon what happened in the past but they must also be viewed within their own context. During 1975 and 1976, Congress held very extensive hearings and found that the data showed vocational education to be very successful, at least, in quantitative terms. There seemed to be many more dollars being spent at the state and local levels for vocational education than ever before. There seemed to be many more facilities, more students enrolled, and some empirical evidence that there was success with those students in the program. However, the legislators in reviewing the progress of the Act were confronted with several problems.

As I describe these problems, I would like to emphasize that I am in effect summarizing the House and Senate committee reports on this legislation since committee reports are frequently the best, and sometimes the only, documents which give a thorough explanation of the congressional intent surrounding legislation.

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* A transcription of a presentation by John Jennings.

Problems Addressed by the 1976 Legislation

Isolation

In 1976, these committee reports stated a general conclusion that vocational education programs as administered at the state level in many states seemed to have too much of a tendency to be isolated unto themselves. In state departments of education, vocational educators sometimes were isolated from other parts of the state department. Within the states themselves vocational educators were too isolated from postsecondary educators; and also, vocational educators were too isolated from the people operating Comprehensive Employment Training Act programs and other types of training programs. And, of course, the same was true in reverse: these other people who administered programs very similar to vocational education frequently isolated themselves from vocational educators and others administering similar training programs.

Use of Federal Funds

An additional problem seemed to be that there was difficulty in finding how the funds were being used, especially the federal money. This was true for a variety of reasons. In many states, federal dollars were mingled with state and local dollars so that you really couldn't tell what the federal dollars were bringing about or even paying for. Although the state plans were supposed to show the expenditure of federal money, they really didn't show much because they were merely compliance documents completed to fulfill the exact letter of the law. There also seemed to have been a problem with the attitude of the federal adminstrators in that they operated the program as a revenue sharing program without going out to the states to give them assistance or trying to correct misuses of federal money that occurred. It appeared that generally federal money was being used properly, but possibly it wasn't being used properly in some isolated instances; and no one knew for sure how many of those instances there were.

Lack of Good Data

Another problem seemed to be a lack of good data to show exactly what was happening, not only with federal money, but with state and local money as well. In one state, they counted anybody who was in career education as a vocational student, in other states they did not. In some states they counted students as vocational students if they were in one course for one hour a week, and in other states they did not. In some states you had to be a full-time student in a course for many hours, and in other states you could be a part-time student. Differences also existed across states as to the types of credentialing used. There seemed to be no uniformity in the data, even sometimes within a given state. So, if you were to take the testimony of people who said that things were going well, you couldn't really find out for sure because there was not the solid data base to back up those statements.

Lack of Follow-up

The last of what these committee reports called problems had to do with the inability to look at the quality of the programs. There were some witnesses who were able to show through follow-up studies that their graduates had done well. But this type of follow-up seemed to be very sporadic. You had somebody from a city saying: "We have this record that kids did well." But you really did not have any uniformity in the following up of those individuals over several years or data from other school districts in terms of whether that was true for different types of programs or even the same type of program over time.

The Congressional Context

What Congress tried to do was to concentrate on these problems and bring about some solutions. At this point, I would like to repeat what the reports stated in describing these problems, namely that this description of problems was not meant to leave a negative impression of vocational education; rather, the Congress was trying to discover what the impediments were to a better vocational education system and was trying to help remove those impediments. It was presumptuous in a way for Congress to try to address these things because the federal commitment to vocational education, even though it has grown in dollar terms, has in no way been able to keep up with the expansion of state and local funding. Though state and local money grew by 100 percent between 1971 and 1976, the federal appropriations increased by only 37 percent. Obviously, the federal government was by far a junior partner.

Nonetheless, Congress felt for several reasons that it should be bold in trying to say that certain things should be put into process. Congress was the first in trying to encourage vocational education in a national sense through enactment of the Smith-Hughes Act in 1917. And since then, Congress in this field peculiarly has been the body which has given some direction to vocational education, frequently out of proportion to the federal money which was being made available. Sometimes vocational educators look to Congress and are willing to accept solutions even though Congress isn't providing the bulk of the money.

Further, the friends of vocational education in Congress felt that the ball game was being lost because within that same bracket of time when Congress was minimally increasing vocational education appropriations, barely keeping up with inflation, the appropriations for the Comprehensive Employment and Training Act (CETA) were growing by leaps and bounds. That program has gradually changed from a job retraining program as it was first constituted in 1962 to a public service employment program today with what seems to be a very low priority on job training. Yet, billions of dollars were going to the CETA program; and some Congresspersons felt that vocational education had to show a better record in order to be able to receive some of that funding. The congressional friends of vocational education felt that a better case could be made for the training provided by vocational education because that training produced a long-term productive solution instead of a short-term reactive solution.

In the Amendments of 1976, Congress tried to help vocational education make this case. First, more administrative flexibility was given to the states through "block-granting" most of the funds. But, then, second, the legislation concentrated on making changes in the way decisions were made by the states. In other words, the legislation concentrated on the decision-making processes at the state level. It seems that in vocational education, and, again, rather peculiarly, the state departments of education have quite a say in areas in which they don't always have a say in other types of programs. Consequently, Congress tried to impact on the decision-making at that level in four areas.

New Amendments

Planning Requirements

One area of change involved the planning requirements. They were to be very specific. In this Act, Congress was extraordinary in writing out exactly how the planning process had to occur at the state level. The law specifies the exact agencies within each state which must participate in the planning process. The law also says that there has to be so many meetings a year and describes what has to happen in each one of those meetings. That is extraordinary for a federal law. I think Congress felt a need to open up the decision-making process so that all elements of job training could get involved in the way in which federal funds were being spent.

Accountability

Congress also required that the state plan, which was the document to be used for this decision-making, had to be very precise and had to say exactly where the money was going, and most importantly why the money was going for certain things. Now I will dare you to go back and look at state plans which were compiled in vocational education for many years to find these things, and you will not find many plans setting out the exact reasons why certain things were done. It seems a lot of things that were in the law were simply regurgitated in the state plans; and that document, in fact, was not a planning document that presented reasons why things were done or not done.

Improvement of Data

Another thing Congress tried to do was to include provisions in the legislation to enhance the chances for better data. In order to achieve better data, federal data gathering was transferred from the U.S. Office of Education to the National Center for Educational Statistics (NCES). And, the legislation also laid out the specific elements of data which had to be collected by the states and from the states. Congress also mandated the creation of the National Occupational Information Coordinating Committee and companion state committees to help the states and NCES with this task. These committees were also to work on achieving more uniformity in data gathering among all training programs and to work on achieving the use of better occupational demand data in those programs.

Evaluation Requirements

You are aware, of course, of the state evaluation requirements which are the last area with which the new legislation deals. Congress is saying that within the five years of its state plan each state has to evaluate all its programs. Evaluations of specific elements of programs offering entry-level training are required, i.e., as to what happens to the completers of those programs in terms of whether they achieve employment in job related fields and what their employers' opinions are of their abilities.

I want to discuss why Congress chose those criteria and why it did not choose other criteria. I think there was a feeling that a program which claimed that it was training people to send them out into the job market should minimally show whether the people who were trained in that particular skill did or did not obtain employment in that field, and secondly, what the employer thought of their capabilities.

There are many other things which could be taken into consideration because you cannot take human life and reduce everything to those two simple facts in order to judge "success" or "failure." There are always so many things in life, so many variables, that you cannot simplify and understand them all. But, it would seem that if there were any basic information that would serve as a beginning point to evaluate this type of program, namely a program claiming to offer entry level job training, it would be whether people became employed and what their employers thought of their training. Now perhaps if there is a low placement record, there are good reasons for that and those can be explained. Maybe there are particular characteristics of the program that make that type of criteria inappropriate and that can be explained also. Yet, it would seem that you have to start somewhere in looking at a program to determine its usefulness; and I think that is why Congress settled on starting right there.

Parenthetically, I would like to deal with a criticism I have heard of congressional action with regard to this new requirement. Some people say that if Congress wants to have such an evaluation made of the uses of federal funds for vocational education, it should mandate the same requirement for the programs of higher education supported with federal funds. Although on its face this criticism has some merit, it must be remembered that there is a basic difference in the manner in which Congress provides funds for vocational education and for higher education.

Vocational education really receives general institutional assistance with certain broad requirements placed on its use. Higher education does not receive institutional support; rather, the vast bulk of federal support for higher education goes out as grants to students and then each student decides where he or she wants to attend school and brings that assistance with him or her to that college or university. So, federal support for higher education has an inbuilt "quality" standard by relying on the judgments of millions of students as to which institutions they believe are the best for them or the most appropriate for them.

Vocational students cannot make that choice since the federal funds are given to state vocational administrators who grant them to local vocational schools. So, the "quality" check in this situation is now meant to be how these schools' programs fare in the newly required evaluation.

Implementation

NIE Report

Recently, I was given a draft copy of a report to the National Institute of Education on the status of the states' implementation of these new evaluation requirements specified in the 1976 Amendments. That report states the following conclusions.

First, it seems that approximately a third of the states are using their present systems for evaluation to comply with these requirements. Some of those states say that their systems comply, and others say that they do not want to change their present systems very much and so they will stay with what they have. There seems to be a second group of states, another third, which has gone about trying to change their present systems in order to bring them more in line with the spirit of the law. And finally, there is a third of the states which is just starting to implement some evaluation features. Some of them have started pilot procedures and are moving on to regular procedures next year.

Consequently, it is apparent that the states have a way to go before they will be able to meet these new requirements in full. It is understandable that the states are in this situation because up to now there have not been those types of strict requirements. But the states must continue to press on with their implementation if they really care about funding the programs which will provide the best possible training for their citizens.

Furthermore, the results of these evaluations are meant to mesh with the other three types of requirements which were put into the Vocational Act in 1976. If the evaluation data obtained are good, they should be put into the planning process so people will know what type of programs are successful and which programs are not successful. It would seem that if one secures good evaluation data, that type of data can be used at all different levels of decision making. In so doing better planning, greater accountability, improved data and good evaluations will mesh together, hopefully to bring about better programs in vocational education.

Title I Evaluations

The last thing I would like to discuss is what has happened with Title I evaluations and how that might have some meaning for what you are embarking upon right now. If I understand a recent report correctly, it seems that a strong effort to do evaluation on a comprehensive scale is a new thing in vocational education in most states. To do evaluations in a systematic manner seems to be very new for the vast majority of the states. Therefore, something might be learned by looking at what has happened in another education program where these types of evaluation requirements have been in effect for a much longer period of time.

Title I of the Elementary and Secondary Education Act of 1965 is the major federal program of aid to elementary and secondary education, involving approximately three billion dollars of federal funds for compensatory education for poor children. There have been legislatively required evaluations for Title I programs since the mid '60s. Title I was the first major social program which included requirements that state and local evaluations of the programs be conducted. The amount of money spent on evaluations of that program has gone from one million dollars to over twenty million dollars in the last several years.

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A report that was just done by the Stanford Research Institute in Palo Alto on what has happened with the evaluation requirements in Title I is directly relevant to what you are discussing at this conference. The first thing this report points out, and I know it to be correct, is that the congressional intent behind the Title I evaluation requirements was that local people should look at their programs periodically and try to evaluate them to see what could be done better and, hopefully, to put those improvements into their programs. From the beginning, the feeling on the congressional level has been that the primary purpose of these requirements is to try to bring about local program change.

This local perspective for the requirements was not carried out by the federal administrators of the program. Instead, the U. S. Office of Education went in the opposite direction in implementing that provision. Almost from the first days of the act the U. S. Office of Education tried to get nationally uniform data, data which could be aggregated at the state level, then aggregated at the national level. This would enable them to come to Congress and the administration and to tell them exactly the number of successes or failures in the national program. The only way they could see themselves doing that was to more or less impose, although sometimes indirectly, the use of reading achievement tests.

Consequently, what one finds in Title I, as you go all the way down the line, is that reading achievement tests are for the most part, used as the only criterion for success in that program. What that has meant is that what is being required nationally in order to achieve some type of national data has resulted in these evaluations having almost no influence on the local level in terms of changing those programs. In other words, it seems that the requirement that started out initially with a focus on the local level has been thwarted over the years in an attempt to get national data. What has been achieved to date is pretty well irrelevant to the people back on the local level. It may or may not be relevant at the national level.

Congresspersons are very happy to hear that the reading achievement scores in Title I have gone up by so many months because they can claim that is a wise expenditure of money and they like to go to the appropriations committees and tell them they have to put more money into the Title I program because the scores have gone up. And yet, if that is the sole use of the money, or the sole use of the evaluation data, it seems to have frustrated the primary purpose of the requirement.

You should keep this Title I evaluation phenomenon in mind as you try to implement the new evaluation requirements of vocational education. If all of you work for several years to secure some type of data which may or may not be accurate, but which can be aggregated and can be sent on to Congress, then you will not have carried out the primary purpose of the evaluation requirements. The primary purpose is to try to give local people, and state administrators, an opportunity to learn how their programs are operating and to help them improve those programs.

This local purpose for evaluation may be difficult to carry out because, as the report on Title I points out, there are several reasons why local people say that Title I evaluations are pretty much irrelevant to their decision making, even in addition to the nationally required use of achievement tests. These reasons directly impinge upon what you are embarking upon. These factors are:

1. **The stability of the program.** As with many programs, Title I programs live on and on with a certain momentum to them. And if that is true in Title I, you can bet that it is true with vocational education, possibly to a greater degree.

2. **The timing of evaluation.** It seems that most of the evaluations produced in Title I just come at the wrong time of the year for them to be of much use to people who are reviewing the local programs. Again, that is directly relevant to vocational education.

3. **Minimal linkage between evaluators and administrators.** There is very little connection in most school districts between the Title I evaluators and the Title I admininistrators. This is especially true when outside evaluators are used in Title I. It seems that what they produce is not of great relevance to the people who really make the decisions in how to shape Title I programs.

4. **Many diverse audiences.** Title I has many different audiences and these audiences have different perceptions of what the programs are supposed to do. Also, they have different ideas of what type of information should be produced in evaluation. A number of audiences feel that achievement test scores are not a valid criterion upon which to solely judge the program. That problem of course is one vocational educators face very intimately in trying to judge what type of audiences are to be served, what type of criteria should be used.

5. **The state of the art of evaluation.** This is a developing field and currently involves many divergent evaluation strategies.

6. **Evaluations are perceived at the local level as a threat.** If an evaluator reports a reading score on a Title I program which has not gone up to a certain degree, the Title I teacher or administrator has a fear of being called in on the carpet. Vocational educators face that same problem.

7. **Problems are explained away.** Regardless of what problems are contained in an evaluation report, the Title I staff is usually able to "explain away" why those things are there and be able to point out that one is not really looking at the right things and that there are other things to be considered.

Those seven things are more or less things which everybody dealing with evaluations of programs is going to face, and the task is not easy.

Summary

This conference is a beginning of a significant discussion of where we should go with vocational education evaluation. There are so many variables and so many differences of opinion. A lot of things are going to have to be discussed and discussed over a long period of time so that we can gradually work our way towards a valid system of evaluation. In my opinion, the evaluation requirements in the Vocational Education Act are probably the most significant requirements in that Act, because over time they potentially could have the greatest effect on programs.

A number of vocational educators say that they cannot terminate local programs even when employment demand and placement for certain programs is quite low. For example, every high school wants to have a beauty culture course and there is no way state or local officials can go to those people and say your students are not being trained in an area of need. If you want to have that course, you must pay for it out of your own money. People at state and local levels have difficulty doing that now partially because the data are just not there to show that is so.

Since we are beginning to face a situation where new dollars for education are going to be hard to come by, we must have some idea of which programs should be supported with our funds. Potentially, these new evaluation requirements in vocational education can give us some facts on which to base our decisions. And, as citizens, I am sure that we all want the most judicious use of our tax dollars. And as citizens, we want to make sure the programs offered are going to give students the best type of job training opportunities. You have an opportunity at this conference to debate those issues and to give us the beginnings of some answers.

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OUTCOME STANDARDIZATION FOR COMPLIANCE OR DIRECTION: THE CRITICAL DISTINCTION

Donald W. Drewes

Standardized outcome measures--ruin or salvation. Although the statement is reminiscent of sensational journalism, it does serve to anchor the extreme points of opinion with respect to the standardization of outcome measures in vocational education. Because the issue of standardized outcome measures is so salient to vocational education, I believe that it would serve a useful purpose to analyze the need and use of standardized outcome measures from the triple perspective of the federal, state and local levels.

The impetus from the use of standardized outcome measures emanates from federal vocational education legislation. Congress, in enacting the Education Amendments of 1976 Title II, stipulated that a vocational education reporting and accounting system be established. This data system, commonly referred to as VEDS, is to be based on uniform definitions and is to contain elements descriptive of vocational education students, programs, program completers and leavers, staff, facilities and expenditures. Examination of House and Senate reports accompanying the legislation reveals that VEDS was established to overcome the lack of adequate data describing the vocational education enterprise in this country. A common complaint echoed in the testimony was that vocational education data were not compatible across states and hence that aggregations at the federal level were of questionable validity as indicators of the status of vocational education. This situation was frequently described by the adage that "you can't mix apples and oranges and get anything but fruit salad." Given the pervasiveness of the problem and the harmony of voices raised in protest of the lack of adequate data, Congress responded by mandating the establishment of a nationally uniform data reporting and accounting system in vocational education.

In addition to VEDS, Congress introduced further standardizations by requiring that all state vocational education programs purporting to impart entry level job skills and receiving assistance under the Act be evaluated according to the extent that program completers and leavers find employment in occupations related to their training and are considered by their employers to be well trained and prepared for employment. This requirement, coupled with the requirement that evaluation data be included as part of the VEDS, made standardized outcome measures in vocational education a reality. Given the existence of this reality, I would like to spend some time tracing the implications for vocational education. In order to do so, it is necessary to examine the effects of standardized outcome measures as they impact across federal, state and local levels.

The Federal Perspective

Melvin Barlow noted in his bicentennial review of vocational education that the greatest influence on vocational education has been the Congress. This influence is currently focused on the use of information in vocational education to improve rational data based planning. The philosophy underlying the recently enacted legislation is that better data will result in better decisions, and that better decisions will ultimately improve the quality of vocational education. Concurrent with their emphasis on the need for information to support better decision making is the requirement for information to monitor the progress of vocational education to ensure that the intent of the legislation is being carried out. It is these two themes, the need for information to support improved decision making and the need for information to support monitoring of the status of vocational education and their complex interplay that provides the Congressional rationale for standardization of outcome measures.

Congress, in carrying out an expanded monitoring role, provided for the flow of standardized outcome data from the locals, through the state to the federal level. This information is to be provided by VEDS to the Commissioner of Education who is required to submit an annual report to Congress on the status of vocational education. This report is to contain an analysis of the data, presumably to determine its policy implications, and is specifically mandated to contain a summarization of the outcomes of vocational education as measured by the standardized outcome data. So as to have an independent check on the status of vocational education, Congress also provided that the National Institute of Education undertake a thorough evaluation and study of vocational education at state and local levels and report its findings to the president and to the Congress no later than September 30, 1980. One can but surmise that these data will be used for continuing oversight of vocational education. It is quite conceivable that Congress will publish an oversight report on the implementation of the Educational Amendments of 1976. Certainly the increased availability of standardized outcome data cannot help but influence Congressional opinion as to the ability of vocational education to respond to prevailing economic and social needs. The valence of this opinion will have its impact on subsequent Congressional appropriations and will undoubtedly shape the format of federal vocational education legislation. The effects of standardized outcome measures will extend beyond the halls of Congress. The administration position with respect to vocational education could easily depend upon the image of vocational education as portrayed in the annual status reports. The result of their perception might well be reflected in the administrative budget with allocations to vocational education conditioned by the administration view of vocational education's ability to impact on significant social and economic problems of immediate political interest.

Advocacy of vocational education at the national level would be facilitated by the availability of standardized outcome measures. Professional organizations like the American Vocational Association would have access to information documenting the progress of vocational education and the extent of unmet needs remaining to be served. Given the credibility of the process used to generate these data, this capability to document progress and needs might increase vocational education's competitive position with respect to the share of federal funds received. The same positive results might accrue to the National Advisory Council. Availability of a pool of standardized output information should provide them with a data base for the monitoring of the progress of vocational education in meeting the national manpower needs.

While offering the possibility of positive effects at a national level, uniform data on the quality of vocational education might have some uniform consequences. Provision of a single data base will result in all agencies using essentially the same source of information on which to base their decisions. The possibility of all actors at the national scene having access to a common data base poses some interesting questions. For example, 'Will the advantage go to those who have the capability to make the most astute analysis now that data present no clear cut evidence as to underlying causal factors. The same data lend themselves to multiple interpretations with differential policy implications. Given this to be the case, one might rightly be concerned as to whether the advantage will go to those who are most astute in the use of data to buttress arguments that are supportive of their position. Since agencies would be using the same intelligence system, agencies like the National Advisory Council might find it difficult to maintain an independent and impartial vantage point. Efforts to acquire independent data for purposes of verification would be so limited in comparison with the size of the national system that its utility for verification purposes would be questionable.

Use and ultimate utility of a standardized vocational education data system will depend on whether this system is primarily accounting or decision-oriented. An accounting orientation will predispose the collection and reporting of standardized indicators of the status of vocational education. These indicators would be periodically released in the form of reports with fixed format and content. The purposes would be to provide descriptive information on vocational education students, programs, expenditures, staff and outcomes as measured by follow-up studies of completers and leavers. The principal utility would be to provide baseline information on the progress of vocational education. Since data elements would theoretically be based on uniform definitions and standardized collection procedures, data could be aggregated at the national level, thereby avoiding the traditional 'apples and oranges' problem. Vocational education status indicators would be similar in concept to the national labor market indicators collected by the Bureau of Labor Statistics and demographic data collected and reported by the Bureau of the Census.

In contrast, the decision-oriented approach would emphasize the analysis of standardized data to support policy decisions. Rather than providing a static accounting of the progress of vocational education, a decision-oriented system would be structured so that the data could support the identification, formulation, and choice of decision alternatives. The emphasis would be more on the use of historical data as a basis for anticipating future trends and the analysis of data to support testing of hypotheses about the causal factors interacting to product the observed results. Because of the need for data to support decision making, greater flexibility in output format would be required, with implications for data storage and retrieval. The data system would have to be structured to allow greater accessibility to the data files on an as needed basis.

The development of a standardized vocational education data system will both shape and be shaped by the context in which it evolves. The accounting orientation has the support of precedent and is congruent with the accountability thrust of the present legislation. One would anticipate that an accounting-oriented vocational data system would place primary emphasis on the production of vocational education statistics descriptive of the condition of vocational education. On the other hand, one would anticipate that a decision-oriented data system should be capable of providing information that enhances the quality of administration of vocational education at the federal level. More specifically, one might argue that improved access to standardized data should have utility in occupational and manpower planning, identification of issues and problems of national significance requiring applied research and development, sharpened perspectives on forthcoming issues and challenges facing vocational education, and improved integration of vocational education into a comprehensive manpower delivery system.

The most critical consideration governing the use of standardized data at the federal level will be whether data are used primarily to ensure compliance or to support improved leadership. A choice for compliance will result in the data being used primarily to monitor the performance of vocational education for the purposes of accountability. Emphasis on the decision-making orientation will result in data being used to support a stronger advocacy position for vocational education.

The use of data at the federal level is constrained by the nature of the federal-state relationship. The constitutional separation of powers places responsibility for education at the state level. Consequently the federal role in the federal-state partnership, as historically defined, has taken the shape of federal financial aid to the states to assist them in dealing with problems of national concern as defined by Congress. The states, in principle, are free to establish their goals. Once goals are established, it is the federal responsibility tc determine that means chosen to achieve these goals are in accordance with legislative intent. This partnership relationship by its very nature is conducive to use of data as a measure of compliance. As a result of the emphasis on accountability, comtemporary data systems have been primarily accounting type data systems.

The State Role

Because the constitutional authority for education resides with the states, Congress has assumed that the responsibility for vocational education also rests with the states. As exemplified in the Educational Amendments of 1976, the state is cast in the role of a master planner. The state plan as the master blueprint, in accordance with the principles of rational planning, is to contain a statement of the need for job skills within the state, the goals that the state will seek to achieve in satisfying these job skills, and a description of the programs and courses to be offered to achieve these goals. In addition, the plan is to include a description of the use of federal, state and local vocational education funds for the achievement of these stated purposes.

The legislation draws no distinction between the state's role in goals planning and in its role in program planning. Goals planning is concerned with the determination of what needs exist to be fulfilled. Program planning, in contrast, refers to the way that resources are combined and marshalled to serve identified needs. In many instances, states have delegated responsibility for program planning to the local level. The result is that although the state may be able to identify goals, they do not have direct control over the delivery system to achieve these goals, the reason being that in most instances the responsibility for the ultimate delivery of vocational education programs resides at the local level.

Although the states have constitutional authority for education, they have in effect delegated this authority to the local level. As a result, the state is in much the same position with respect to the locals that the federal government is in with respect to the states. The effect is that state use of vocational education data has evolved mainly as an accounting function in response to federal reporting requirements. Since relatively few states are in a position, nor would they wish to impose the state will on the locals, there has been little need for information systems to develop to support rational centralized program planning. As a corollary, there has been relatively little need for state systems to include output measures of local performance. Because of state law, state board of education policies, and the relationship of vocational education to general education, there is relatively little discretionary authority over the flow of federal and state funds to locals.

The disparity between the de jure structure of the legislation and the de facto structure of reality is exemplified in the difference between state and statewide needs. State need connotes that a need is defined by the state agency by virtue of its centralized authority. Statewide need, in contrast, connotes a need that is pervasive throughout all the local units comprising the state as a geo-political entity. Statewide in this context becomes operationally defined as a need experienced by a majority of locals. This definition tends to shift responsibility for need determination from the state to the local level.

The Local Scene

Decision making at the local level is frequently influenced more by political considerations than the need for data to drive rational planning models. Need for programs is often based on community rather than statewide considerations. Local advisory councils represent a widely used means of gathering information about local needs and concerns. Other sources of community input include school board members who are generally influential community citizens, community pressures focused on the superintendent and other school administrators, and the community linkages maintained by vocational education teachers in the conduct of their courses.

A host of associated factors mitigate against rational data-based planning as interpreted by planning scholars. Decisions at the local level are frequently constrained by scarce resources. Since state monies tend to flow according to enrollment statistics, administrators are reluctant to drop courses that are popular and hence paying their way simply on the basis of outcome statistics showing placement rates in occupations related to training. Educational resources are frequently not easily transformed into other uses. Staff, equipment and facilities, once acquired to support particular program offerings, are not easily shifted to accomodate newly emerging demands. The scarcity and frequently limited substitutability of resources tend to restrict the discretion of local decision makers and thereby reduces the utility of data to contribute to improved program planning.

Because the accounting (indicator) data frequently required for reporting purposes are of limited use in local level decision making, the collection and reporting of such data are largely on overhead cost. Data collection and reporting efforts are geared to minimize this overhead cost with consequent effects on the quality of the data reported. Since many of the locals understand the economics of this trade-off and its consequences on the quality of data reported, they express little or no confidence in higher level aggregations of this data.

Although this discussion pertains to data systems in general, the application to standardized outcome elements is immediate. Local schools with established vocational programs linked into the community infra-structure, are not going to be dissuaded to stop offering a program simply on the basis of output data showing low placement rates in occupations judged by an external standard to be related to the program. The program may, for example, be a popular program with the student. The instructor may be well liked by both students and community and the program may be perceived by the community to be serving a useful community function. A prime example of this phenomena is vocational agriculture. By a strict interpretation of production agriculture, placement rates might be low for a particular program, yet the program may have widespread community support in rural communities.

Statistical data that are inconsistent with the nexus of information regarding program support will tend to be neutralized by challenging the validity of the data. This challenge can take place on a number of grounds. A likely basis of challenge would be on the definitions and values underlying the data. With respect to standardized outcome measures, this challenge would focus on the validity and acceptability of the concepts underlying the data source. Criticism of placement rates would likely take the form of criticism of the definition of related occupations and a challenge as to the efficacy of placements as the sole indicator of the value of vocational education.

Again, referring to the vocational agriculture example, the validity of the data might be challenged on the grounds that production agriculture represents but a small fraction of the occupations that require the skills developed in vocational agriculture programs. This argument might also be augmented by the contention that vocational agriculture teaches a philosophy and a way of life that is urgent for the preservation of the values and morality of rural America. The negative effects of low placement rates might be further countered by the argument that vocational education prepares people for work rather than for specific jobs. Using this reasoning, the data could be said to provide misleading results in that they did not depict the number of vocational students who created their own employment because of skills learned in vocational programs, nor did they account for the contributions made by vocational education to the subsequent career achievements of vocational students.

The purpose of these examples is to illustrate that the use of outcome data is largely a matter of attitude. If the data tend to be in accord with prevailing attitudes, the results will tend to be accepted as a rationalization of the validity of the foundation values and beliefs. If, on the other hand, the data are at cross purposes with these fundamental values and beliefs, the validity of the data will be challenged in an effort to reduce the dissonance created by the incongruent piece of evidence. Those of you acquainted with psychology will recognize this as an example of cognitive dissonance theory which states that a person will act to reduce the dissonance created when information conflicts with values. Basic values and beliefs change slowly and only after data have repeatedly shown that these beliefs and values are inconsistent with reality or lead to actions with adverse consequences.

State-Local Relations

States are often reluctant to take punitive action on what may be interpreted as adverse outcome data. For one thing, many state vocational educators share the same apprehension and reservations about the ability of outcome data to capture the essence of quality. They are also astute enough to realize that neither the state nor the federal government can mandate quality programs. Since many of the state supervisors and consultants have carefully nurtured a network of relationships with local personnel, they are unwilling to jeopardize the continuance of these relationships by taking precipitous action on the basis of information contained in standardized outcome data. They realize that whereas they may be able to force a small change in program design and operation, a show of force would ultimately reduce their effectiveness as facilitators of long-run program improvement. State level vocational education professionals also in the main realize that positive change is a slow evolutionary process. State input, if it is to effect change at the local level, must first be accepted at the local level.

This acceptance depends upon the extent to which the information is regarded as credible and the source, legitimate. The process of establishing credibility at the local level is slow to build since it depends upon a relationship of mutual trust. The real business of facilitating programs is done on a personal basis through informal relationships. Thus, the formal data flow is often a matter of formality with decisions having been reached by common consensus. In this personal relationship, the state consensus partners generally respect the sovereignty of the local to be in the best position to know its local needs and conditions.

The formal-informal relationships between state and local are paralleled by the flow of information. Formal information tends to be that required as a matter of compliance and is generally imposed by federal and state laws and administrative policy. Whereas the formal information structure supplies the data for reporting requirements, the informal information structure generates much of the input into the decision-making system. As a result, the formal structure acts as a pipeline or conduit of information for data reporting purposes that flows upward through the state and ultimately into the sea of federal information. Because this flow tends to be isolated from the informal system, this information has relatively less impact on decision making and serves mainly for satisfying compliance purposes. The state in this process functions much as a centralized warehouse, collecting information from the locals, packaging it, and forwarding it on to the federal destination.

Whatever problems existed at the state level with respect to mandating quality are magnified manyfold at the federal level. The federal level, being further removed from where the action is, has to rely on the data generated by the formal system for information as to the current status of vocational education. Lack of informal information makes the federal level dependent upon formal information for intelligence with the result that the data, including standardized outcome data, present a rather cloudy, incomplete, and frequently inaccurate picture of vocational education.

Suggestions for Improved Utilization

Given the structure of vocational education and the impact that this structure has on information, the question of immediate concern is what can be done, if anything, to increase the effective utilization of information by vocational education decision makers. To say that I have the answers to these questions would be presumptuous. I can only share with you some views and notions as to how the process might be modified with the hope of improved data utilization.

I believe it imperative that we distinguish between the use of data for reporting purposes and the use of data for program improvement. In recognition of this distinction, I propose that we find a small core of standardized data elements that will serve to indicate the status of vocational education. The data elements to be collected should be judiciously chosen so as to present the maximal amount of information to the major users of vocational education data at the national level. The dimensions of this core of data elements should span the six categories provided for in the legislation. Specific elements within each of the six categories could be chosen so as to answer the most frequently asked questions of vocational education. Since Congress is the major consumer of vocational education information at the national level, it would seem appropriate to use their informational needs as criteria in selecting the data element composition for the core of indicator items.

The temptation to expand the core of indicator variables collected should be resisted, lest the burden of collecting this information on a regular basis become too burdensome and costly for the benefit accrued. Because no data core regardless of its size can answer all the questions that might be raised, provision should be made for rapid survey capability to secure answers to questions, providing that there is sufficient need. One salient indicator of need would be the willingness of Congress or a federal agency to appropriate money for the conduct of the survey.

To insure comparability of the indicator measures, their format should be rigorously controlled. This could be achieved by uniform definitions and standardization of the collection procedures. Development of uniform definitions and standardized collection procedures should be under the auspices of the agency having responsibility for the collection of indicator data. Since the National Center for Education Statistics has legislative responsibility for the education data function, this agency would be a logical choice. The elements should be operationally defined and the collection procedures based on a sound technical and statistical methodology.

The data elements should be structured so as to permit rapid retrieval of information in a flexible format as defined by the user. The flexible format would circumvent the present difficulty of information being available only in the tabular report forms chosen by the report writers updated only as often as the agency publication schedule permits. Those of you familiar with federal report publications know that this updating often entails a considerable time lag.

The role of the state and locals in this collection process varies considerably. One option would be to use Arthur Lee's idea and have the locals submit data on individual student records in machine readable form. This would circumvent the rather cumbersome current process and would eliminate the laborious activities associated with filling out current reporting forms. However, this assumes that most local schools have data processing equipment. Another possible limitation is that the sheer number of records involved would exceed the processing capacity of a centralized system.

An alternative to securing information directly from the locals would be to use the state system as an intermediary. State systems could be used to preprocess the information obtained from the locals and could send the processed data to the national level in machine readable form. Since most states have automated data processing capabilities of some sort, this would overcome the equipment limitations associated with having the locals directly involved. The states might also exercise some preliminary processing such as reliability and validity checks on the data to ensure that they are in proper form.

By decentralizing some of the responsibility to the state level, the states could be more involved in the process and the burden imposed on the central processing unit could be reduced. In this sense, the system could function much as a distributed computer network.

So far I have not touched on how the reporting burden may be reduced. This could be accomplished in a variety of ways. First, the reporting burden could be reduced by restricting the size of the common core of indicator variables requested. Locals might be paid to provide the information according to federal reporting standards. This would make for a more equitable relationship since if the federal government were paying for the data they certainly could expect to have it reported according to their specifications. Another option would be to pay an independent agency to sample data from the schools much like the Census Bureau now secures current population data from samples of households. It is conceivable that the state agency might be paid a stipulated amount to secure this information on a specified sample of units according to the standardized procedures.

The major question raised by the critics would be that of cost. I maintain that the cost would be no greater and might result in a savings. Indicator data collected on a well-drawn sample could provide data of sufficient precision for federal purposes at significantly less cost than the universal sampling currently being used. The fact that schools would be paid for their effort expended in collection of data according to externally defined standards would certainly do much to improve the quality of the data collected. The major difference in this proposed method and that currently being used is that the cost of collecting data would be directly borne by the federal government rather than indirectly shifted to the states and locals. Funding for this data collection effort could be achieved by several methods. Congress might provide a special appropriation to NCES for performing this function. Another option would be to transfer a stipulated amount of vocational education appropriations to NCES, or a third option might be to stipulate that the states use funds authorized for planning under Section 102(d) for purposes of data reporting.

The effect of these recommendations would be to test the utility of data indicating the status of vocational education. If these data have utility at the national level, then Congress should be willing to pay for the collection of these data in the same way that it provides for the collection of unemployment and employment data and census indicators. If there are no advocates for the collection of data at the national level, then it is not cost effective to collect and should be discontinued.

To say that data only have use for reporting purposes would be a pessimistic prognosis for the future of vocational education. I am optimistic that the quality of vocational education decision making can be perfected by the provision of improved data. Furthermore, I believe that the route to significant improvement is through the medium of technical assistance. The focus on assistance is consistent with the purpose of the 1976 Amendments and provides a more positive approach to improvement than that provided by a compliance emphasis. I believe that if the federal state-local partnership is to more than rhetoric, then each partner must bring something to that partnership.

The federal and state contribution to that partnership is assistance provided in a spirit and form to augment and strengthen local operations. The local role in this partnership is to accept assistance in the spirit in which it is offered and to rise to the challenge of a quest for continued improvement.

A national data base of standardized indicator variables could provide the mechanism to support the provision of technical assistance at the federal level. Three principal agencies could be cooperatively involved in the assistance effort. The Bureau of Occupational and Adult Education (BOAE) has legislative authority for the administration of vocational education legislation. The National Center of Education Statistics (NCES) has legislative authority for the development and operation of a national vocational education data system. The National Occupational Information Coordinating Committee (NOICC) has responsibility for the design and implementation of an occupational information system to serve the national, state and local needs for occupational related information. Working in close conjunction, these agencies could exert a powerful force for the improvement of vocational education through the increased utilization of standardized data. Analysis of the national indicator data to determine the implications for vocational education would provide an informational basis for the provision of technical assistance.

Capability within the Bureau of Adult and Occupational Education to analyze data for its policy and management implications would contribute significantly to the enrichment of BOAE leadership functions. Exemplary data capabilities might be the identification and interpretation of emerging trends in the demand for and the support of vocational education. Enrollment data could be analyzed for shifting patterns and the factors associated with these patterns identified. Similar analyses could be conducted with respect to vocational education completers and leavers with a view toward identifying the individual and programmatic factors that contributed to successful vocational education outcomes as determined by a variety of criteria. Insights into the factors associated with vocational education performance as measured by the standardized outcome indicators would serve as an objective basis for identification of problems of national significance. Such data offered to the states in the spirit of assistance could constitute a salient force for change. By providing the state assistance in the interpretation of the data and its significance for vocational education, state and local levels would see some possible benefits accruing from the data that they had provided. The technical assistance role also includes NCES. A principal role for NCES would be to play the lead agency role in the development, operation, and updating of a policy relevant vocational education data system. Policy relevance would at the minimum, require analytic capability in the system to support the determination of functional relationships between data elements. This would require data based management and support of statistical analysis procedures. Policy assistance to other agencies might take the form of simplified computing routines and/or the provision of personnel assistance in analysis and interpretation. Technical assistance could be provided to the states in order to facilitate their use of data to support administrative decision making. This assistance might take the form of suggested analytical procedures that the states could use in analyzing their state level data bases, alternative methodologies that the state might wish to employ to augment the indicator data currently being collected and reported nationally, and training packages and conferences designed to facilitate the understanding and use of reported data. Methodological assistance in the collection and analysis of data at the state level would serve to stimulate the demand for more and improved data. The important consideration is that the demand would emanate from the users' need for data to support internal operations rather than to satisfy external reporting requirements.

The occupational information system to be developed by the National Occupational Information Coordinating Committee (NOICC) is yet another potential mechanism for stimulating the use of data in response to internal needs. Whereas NOICC is to provide the design standards for the development of an occupational information system, the responsibility for implementing this system at the state level rests with the State Occupational Information Coordinating Committees (SOICC). The relationship between the NOICC and the network of SOICCs provides yet another mechanism for technical assistance. The NOICC, in addition to providing standards for the design of an occupational information system, could assist the states in interfacing and drawing together the large complex data producing systems in the state into an integrated informational network. Occupational demand data could be more effectively linked with supply, and a more integrated picture of supply could be provided across educational levels and agencies concerned with human resource development. The requirement of standardization of definitions across systems could provide a vehicle for the linkage of these systems at the state level into a more cohesive and comprehensive informational system. By linking the existing data systems in the state into a confederation of systems based on shared definitions, it should be possible to shape the information into a variety of formats to suit the needs of various user groups. By serving as a vehicle to promote dialogue between various user groups and the producers of data, the SOICCs can perform a useful function in facilitating improved understanding of data that is currently available, the methodology underlying its collection, and the potential uses to which this data might be put. NOICC could fulfill a useful function by providing technical guidelines and assistance to the SOICCs in organizing and focusing state efforts on the implementation of a unified occupational information system. This assistance could take the form of technical manuals designed to facilitate state understanding of the procedures underlying the collection of certain data elements, assistance in performing needs assessments to determine the informational needs of various user groups at state and local levels, provision of information descriptive of the alternative methodology for collecting information identified as being needed, and stimulation of state interest by providing financial support for the collection of information that might satisfy a need common to a variety of users. One example of such an area might be that of a statewide survey to determine the universe of need for education and manpower programs. NOICC could promote this activity by providing funds and technical guidelines to the SOICCs to assist them in coordinating this activity within their respective states.

State occupational information coordinating committes could become the nucleus for the promotion of the use of data for the improvement of education and training services. For one thing, the explicit purpose of the SOICCs is to improve the dialogue and cooperation existent between agencies involved in the delivery of education and manpower services. A concern for occupational information is the common basis and provides the rationale for SOICC organization. Since SOICC exists as a vehicle to focus coordinative attention on the need for and the use of occupational information as a means of securing improved program planning, each state for the first time has a staff committed to the promotion of the development and use of a coordinative data base. Thus, the SOICCs have the potential to launch a movement to more actively involve a wide constituency of data users and to develop support for increased involvement in the data production process.

In order for this movement to achieve its fullest potential it is imperative that the concept of cooperation inherent in the SOICC structure be extended to the local level. The extension of a state level network of information users and producers can be extended into the regions by the establishment of a network of regional information centers one center to be established for each region. The major purpose of the regional information centers would be to function as the hub of a regional information system. The major purpose of a regional information system would be to interject the uniqueness of local labor market conditions into a comprehensive statewide information system. Functions of the regional information system would be both to collect and provide occupational career and educational and manpower information pertinent to the region served by the center. Regional information centers might provide information on current and projected occupational employment for that region, current job vacancies in the region, demographic information pertinent to the region, information on current and anticipated economic conditions, information on the availability of training and education opportunities of the region and evaluative data gained from follow-up and placement of the clients of CETA and vocational education programs as well as other programs that might eventually carry out follow-up activity.

Regional information centers might also be repositories for information (from a variety of sources) that pertains to the social and economic characteristics of the region. With regard to career information functions, regional information centers could provide information and referral services to people concerned about the availability of education and training opportunities in the region. The centers could also provide information on available assistance in the region for job placement, counseling and guidance services or for other programs designed to prepare and assist people in finding suitable employment. Additionally, they could provide information about duties, requirements, wages, and employment prospects for a variety of occupations to be found in the region.

These regional information centers could also supply information to a host of local community organizations. Examples of organizations receiving input from regional information centers might be occupational counseling and guidance centers at both secondary and postsecondary institutions, local and industrial development commissions, planning officers of educational and CETA agencies, local community education and work councils, community action agencies, county and metropolitan planning officers and a variety of citizen action groups. Data collection activities of regional information centers might include: collection of information from employers as to job vacancies, characteristics of workers customarily hired, including skills necessary to perform the job, required personal qualifications, training opportunities, and hiring requirements. Because of the involvement of local representatives in the operation of the center, the likelihood of employer participation and provision of information would be greatly enhanced due to increased rate of return for the employer both in terms of better trained employees and the public relations accruing from participating in a community based activity.

A regional information system could also contain information that could be used to assist in the planning of vocational education and manpower programs to serve the region. Program planning information might include an inventory of education and training opportunities in the region provided by vocational/manpower program delivery systems and training programs provided by private employers. Regional information centers may provide a technical assistance function through the provision of a wide variety of information. This information might include legislation both federal and state pertaining to the development of resources at state and local levels, federal and state rules and regulations that might have an impact on local planning of education and manpower services and reports and other documented results of research and development efforts of other states and communities in dealing with the problems of developing human resources.

These regional information centers could serve much as public libraries with information available upon request. Information from the local vocational education data system maintained by CETA prime sponsors, and data systems maintained by local employment security agencies could be provided to the regional information centers. This would make information readily available that would provide public knowledge of the effectiveness of education and manpower service delivery programs.

Thus, I have come full circle. Whereas the locals are the originators of data describing the outcomes of vocational education, they must also be the final users of this information if any benefit from them is to result in the ultimate improvement of vocational education. The proposed system provides this feedback link under the general rubric of technical assistance--flowing from the federal to the state and finally through the regions to its ultimate use in the decisions that shape the process and ultimately the final outcomes.

The challenges are great. However, I believe that the time for action is now. Legislation has created a mandate for the improved use of information and has created a variety of mechanisms to support this improved use. Whether history will ultimately record these mechanisms as yet another futile attempt, or whether they will provide the means to move us to a new plateau depends upon our foresight, ingenuity and imagination in structuring these mechanisms to serve our needs. I am hopeful that vocational education will play a lead role in these pioneering efforts. Although the challenges are great, I believe that vocational education has the vitality, the ingenuity, and the creativity to overcome these obstacles and to move to greater achievements in the promotion of human well-being.

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CRITERIA AGAINST WHICH VOCATIONAL EDUCATION SHOULD BE HELD ACCOUNTABLE

Grant Venn

The long recognized success of American education has caused most educators and citizens to rely on accountability criteria with which they are familiar, even though the future which the learner must face today is far different than it was in the past. It is also true that the skills, knowledge and experience needed in the work world of tomorrow require more and different competencies than were adequate in the past.

Recent studies by the National Academy of Sciences titled *Assessing Vocational Education Research and Development;* by Project Baseline at Northern Arizona University titled *Report to the Nation on Vocational Education 1975;* by the Panel on youth of the President's Science Advisory Committee called *Youth: Transition To Adulthood;* by the National Manpower Institute of Washington, D.C.; in a book called *The Boundless Resource: A Prospectus for an Education/Work Policy* and others related to the problems, issues and priorities of preparing individuals for a future work life all indicate the need for new criteria against which to evaluate education of all kinds and especially vocational education.

Traditionally, criteria for accountability in regard to the preparation of youth for the future, including the work role, have been determined over a long period of time based on experience, wisdom and judgment of the society power structure. This method has worked well, primarily because the future was like the past and an understanding of the past was the best way to determine what the future would require. The problem of "what to measure" was relatively simple as compared to today.

It was even more likely that the criteria of accountability for vocational education was relatively simple with work and jobs remaining the same over generations and for most people being primarily manual. The same could be said for nearly all of education in terms of being static. Thus, the measurement of success in meeting these rather simple and static criteria became the isolated effort of a few professionals and a few dollars and was not part of the main concern of education, nor considered highly significant by most educators, citizens, or policy makers. The amount of money spent and past efforts indicate the degree to which the selection of criteria against which vocational education was to be held accountable was not a significant evaluation priority.

Thus, a concern for methodology for measurement became more significant than the selection of criteria against which to measure. Without even implying any criticism, it is fair to say that those in the field of research and evaluation found themselves forced to deal with short term, small parts of the education process rather than broad policy, direction or criteria setting, or even the broad question of accountability criteria.

The long and continued isolation of education from the rest of society's daily pressures and conflicts, especially the education work relationship, forced the practitioner to select criteria for success in vocational education (placement in a training related job) that was not of a great concern to the rest of education and specifically not to specialists in the field of educational research and evaluation.

Very little vocational education research, development or evaluation exists outside the overall educational research and development effort in the country. The history of research and development efforts at the federal level in the United States Office of Education illustrates the point. Today, direct work and job related efforts are probably more clearly identified with the Department of Labor than with the Office of Education. Even the most recent reorganization of the National Institute for Education (NIE) points again to the fact that for whatever reason the relationship between educational research, evaluation and measurement and success criteria in vocational education has been tenuous at best and is still insignificant in research area priorities, which is suggested by the NIE reorganization.

It is also true that the dominance of physical science research methodology, where variables can be controlled and outcomes today are as they were l000 years ago, often causes educational research to keep searching for the "right way." There is a "mystique" that "good," "solid," and "respectable" efforts presently in use will eventually triumph and that the "right criteria" against which vocational education should be held accountable are similar to past criteria. The problem is seen as a need to simply gather the right data, analyze it properly, and draw conclusions which will obviously result from such evaluation. It is also likely that many practitioners feel that all the fuss about accountability and the new legislation compliance requirements are figments of somebody's imagination and in no way related to the real world. This does not imply that whatever evaluation is done can be done without sound processes.

However, it may be that the search for evaluative criteria that are nonchangeable may become the search that is unending and could lead to the cul de sac that methodology has often entered: if we can't measure it, it isn't significant!

While there can be no certainty that any criterion chosen can stand the test of time, it seems certain that present criteria are inadequate, often conflicting and not clearly defined at any level, federal, state or local. The criteria that are often used by evaluators are sometimes part of the resistance to creating new organization, policies, and objectives that could help make vocational education more viable, flexible, and relevant for the learner, the taxpayer and the employer. The reason for this statement is the fact that as the criteria for accountability change it will be difficult, if not impossible, to find the most valid and reliable methods of measuring success, thus, it becomes important to not change the criteria from the standpoint of the evaluator. The recent and continuing national reaction to failing SAT scores indicates the problem. Even though the criteria were chosen to predict success in college, and were predicting successfully, many persons argued that the high schools must go back to their one purpose preparing youth to enter college. Multiple criteria and changing criteria make the job of evaluating success difficult to do and difficult to explain.

Even more troublesome are multiple processes by which vocational education criteria are established. These processes are even more complex than those in the rest of education, for the following reasons:

1. Specific outcome measures and operational criteria are set by federal law and regulation. This may be the reason why vocational administrators feel their most important and time consuming tasks are their efforts to comply with federal and state regulations.
2. Employees that hire directly from the vocationally educated student body have specific and definitive criteria defined by occupation and by job.
3. The economic and social needs of the nation may be more directly or immediately affected by the success or failure of vocational education both in terms of meeting manpower demands and reducing unemployment and emergency expenditures than by most other education programs in the schools.
4. The different methods and equipment used in vocational education are often irritants, if not direct threats to the rest of the educational establishment, at all levels, and thus criteria for success in vocational education often gets changed to reduce these conflicts rather than defined more directly to measure vocational success.
5. Those directly responsible for vocational education policy and objectives are often not familiar with either vocational education or the needs or problems of the work world and thus tend to support their own concepts of quality.
6. The historical separation and development of work and education has created a chasm which, even today, is seldom bridged when most people think of either education or work.

These few examples are given to point up the inherent and difficult problem of establishing criteria against which vocational education should be held accountable that will be acceptable to the educator, the employer, the legislator, the vocational educator and, perhaps most important of all, to the researcher and evaluator.

Allow me, for purposes of this paper, to redesign Glasser's "Ten Untenable Assumptions of College Instruction," to fit the teacher in vocational education whose criteria are set by everyone, constantly changing, and now measured against a single factor over which he/she has no control, the job market.

Often the vocational teacher is forced to act as if the assumptions listed below were true.

1. The specific job knowledge to be learned by the student will relate to the student's future work and career plans even though the career plans of the student aren't known.
2. All students in each course come with equal aptitudes, learnings and experience.

3. Aptitude is more important than previous achievement and motivation for the attainment of skills and knowledge.

4. All people learn in the same way and take the same time to learn the same amount of the same thing.

5. Listening to lectures, reading materials and learning rules are powerful means for changing learner behavior.

6. Students retain knowledge and skills without much review or use.

7. Grades tell what a student has learned and can do.

8. The vocational teacher is, by virtue of a teacher's authority, able to teach the right things well and knows what should be taught.

9. Vocational education instruction is enough to teach a student how to make the transition to work and responsibility.

10. The organization and structure of vocational education as it complies with federal and state regulations is the best system for transmitting knowledge and skills to students at the local level.

Each of us would quickly realize that not all vocational education instructors believe the assumptions, yet the environment in which most vocational education is carried on and the educational system structure, organization, money and priorities all tend to force compliance with traditional educational success criteria and evaluation methods, even though a look at the future relationships between education and work would suggest some new criteria against which vocational education should be held accountable. One thing seems certain, setting criteria for accountability and then measuring outcomes are not consolidated efforts in vocational education. At the present time, the federal government, through legislation, regulations, and categorical funding; the state through administrative program plans and fund allocation; and the local units by interest, compliance or nonconcern, create the variety of criteria which the individual school and teacher must meet and upon which they are judged. Yet these all fade into the background as the individual student, parent, teacher or employer comes face to face with the question, "Is this person able to be successful today and in the future in his/her private, public, and work life?" This concept of accountability may be a more significant basis for attempting to determine a new approach to setting criteria because it is truly the basis upon which each person judges the worth of a social organization, an educational institution, appropriation, or specific program. What is so significant is that change has become so pervasive, especially in the area of work and employment, that it is fair to say that everyone must be educated in order to work or society will be forced to care for them. What may be even worse in our culture is that those who do not work have neither worth nor dignity.

Thus, criteria against which vocational education must be held accountable in the short and long run must come from the individuals in the society into which the student must pass and to whom the student must demonstrate that he/she has learned and can learn and that what he/she has learned he/she can apply as judged by others than those in vocational education, education, or evaluation.

Both process and product evaluation will be made regarding vocational education by the public, since each person has had experience in education. If this experience has been successful, as it has for most "power structure people," both within and outside of education, the degree to which criteria will be "right," as seen by these people, will relate to their successful experience in education. However, today, youth unemployment and isolation; lack of career goals; falling SAT scores; and growing welfare, education and crime costs all contribute to people's fears regarding the quality of education and the quality of vocational education.

In searching for new accountability criteria that relate to individual development, societal needs and future change, one must consider some of the questions that need to be asked in setting priorities for new efforts in evaluating.

1. What are some different things that need to be done as contrasted to the constant question of how to do better what we are already doing?
2. How can we be more concerned with change rather than right answers when we know that much knowledge and skill has a short life in a technological, changing work force?
3. How do we come to value creativity in the development of new methods, organization, and purposes over compliance in vocational education?
4. How do we find criteria against which to evaluate vocational education that are more useful than the traditional criteria of preparation for placement in a job related to training?
5. Can vocational education demonstrate new ways to learn to all of education rather than mimic other education?
6. Do vocational educators owe first allegiance to the consumer rather than the profession, in the area of accountability?

There are many other questions that could be raised but the sense of the proposition is that changes in our society have become so great, especially as it relates to education and work, that new approaches are more important than merely improving or creating minor changes in a system based on the past rather than the future.

Perhaps a brief listing of a few of these changes that support the premise that a major new look at criteria for accountability is more important than simple improvement of criteria measurement or minor additions to the list of criteria would prove helpful.

Fundamental Societal Changes that Demand New Accountability Criteria

Changes in the Nature of Work

Much of what was needed to be a mature working adult regardless of talents, interest or work opportunities was learned through experience in the home, neighborhood or work place; most youth no longer have this opportunity.

Changes in Criteria for Successful Adulthood

The fading work ethic, mobility in the work place, changes in family structure and role all imply new ways to prepare for adulthood as part of education.

Changes in the Nature of Education and Schooling

One may need to become more a learner through the education process than to become a "learned" person. To complete an education is more myth than reality.

More Complex Passages and Transition in Private, Public and Work Life

To prepare for a vocation with the expectation that the knowledge and skills will be good for life is no more realistic than to expect that one is likely to live in the same place or in the same manner all one's life. The transitions in adult life will require different education than did a stable unchanging past, especially in one's work life.

The Future as Different from Today

The most challenging societal change for which vocational education must help prepare the individual is the fact that we cannot tell exactly what the future will require. What accountability criteria are necessary that will predict success when no one can predict what will be needed? This has occurred more often in the work area than any other.

Broad Categories of Evaluation Criteria

In attempting to suggest new criteria for evaluating vocational education, one must recognize that there are new fundamental, social, and individual needs that can best be met by establishing new objectives or criteria against which vocational education should be held accountable. The question of how to measure or the methods of evaluation should not be considered in the original search for better criteria.

If the question of "how to evaluate" gets into the processs of setting criteria, as do the common arguments of "how to meet the objectives," too often critical needs are overlooked because present instruction and organization patterns and evaluation techniques were not designed to be responsive to the new objectives. Therefore, this paper will not consider the question of instructional process or evaluation techniques, nor will it in any way attempt to demonstrate the validity of the new criteria by giving examples of the use of the criteria or examples of how and where they have been measured. This, it seems to me, is the job of the researcher, the evaluator, and the instructional expert whose expertise is in the area of instruction and measurement. The setting of criteria for purposes of instruction and evaluation is primarily a value judgment process which must stand the test of public acceptance.

The previous parts of the paper have attempted to describe the reasons for needing new criteria in addition to indicating some of the specific present practices that are setting objectives in vocational education, and the limitations of some of the evaluative processes that tend to prevent selection of new criteria.

The selection of the four broad categories of criteria is based on premises that assume the primary role of education is preparing for the future.

1. Education has as its major purpose providing specific knowledge and skills as well as learning opportunities that will help the individual prepare for the future. This is also the purpose of vocational education.

2. Education is a societal necessity in preparing for the future and preparation for work has become necessary for everyone in a technological society.

3. Education must be responsive to the unique differences among individuals and among groups in order to educate them for future societal roles, including work.

4. Education must be responsive to change as a fundamental component of the future, especially in the area of work, and thus vocational education must design objectives which brings change in program structure and purpose as well as in the environment where vocational education takes place.

5. Even if education meets individual needs, responds to societal needs, and meets these criteria efficiently, there is still the question of the value of these outcomes if the individual has no opportunity to use his/her education in a work role and society, therefore, receives no benefits from its investment in vocational education.

6. Vocational education has a specific purpose of meeting societal needs in the area of developing work skills especially in the areas where new work skills are being created.

7. All learning for the future cannot be done in the school and the emerging skills, knowledge, and understandings learned through vocational education are often originally developed and used outside the school, thus the involvement of the community becomes fundamental both to learning and also to establishing new criteria.

The broad categories of criteria suggested in the paper derive from the implications of societal change and the recognition that the most common program objectives and processes were established in vocational education long before change became the most valid descriptor of the future. They also assume that regardless of how well vocational education can measure and prove that it is meeting its objectives that many persons question the objectives or criteria in use. The categories chosen also reflect recognition of the fact that change has created much confusion as to just what vocational education should be.

The categories selected provide the common dichotomy of evaluative criteria into process and product categories since the two are necessary components of the teaching and learning process.

Quality of Instruction. This category was selected because it is fundamental regardless of objectives and regardless of process. However, in suggesting specific criteria that might be used, the assumption is made that the future will require that evaluation (1) should not be a process that excludes individuals from vocational education because of their specific weaknesses and (2) can no longer be a measure of quality of instruction. Quality in education has too long been confused with selectivity and fear of the consequences of poor quality instruction has caused many persons to call for a return to guaranteed outcomes through careful selection of students into the program. This may be one of the reasons the federal government is now investing over $10 billion in CETA and only $600 million in vocational education.

Quality of Instruction

Process Criteria for Instruction

1. The degree to which alternative methods are available and used to meet individual student interests, aptitudes, and future working conditions. This suggests that a single methodology cannot be equally effective among the students.

2. The degree to which time and organization are flexible to meet the needs of a variety of students.

3. The degree to which tool learning skills are offered and learned in order that the student may be a continuing learner on the job.

4. The degree to which new and successful instructional processes are rewarded as contrasted to traditional instruction.

5. Staff development related to instructional priorities should be more than simply more education chosen by the individual staff member.

6. The degree that learner assessment and individualized program planning is in use.

7. The degree to which outside advice from students, parents, employers, and citizens is used to redesign instructional processes.

8. The amount of individualized instruction offered.

Product Criteria in Instruction

1. The degree to which all students achieve entry level competencies in an occupational area.

2. The range of skill and learning beyond minimum competencies for every student.

3. The attitude of consumers, parents, students, and employers as to the quality of instruction.

4. Measures of the degree to which vocational courses taken meet individual student career plans.

5. The degree to which students leave prior to completion to secure employment and with minimum occupational competencies. Early learning may be a criterion of success.

6. The degree to which vocational instruction has created understanding by the student of the need for other and additional learning.

7. The degree to which vocational students have knowledge about and can demonstrate employability skills.

8. The degree to which students may select or be employed for work requiring competencies beyond the occupational study area.

9. A measure of individual career growth after leaving the program as compared to matched students without vocational education.

10. A measure of students' opinions of the value of vocational education some years later.

Relevance of Program. This concept of accountability criteria would measure the quality of vocational education against the criteria of judgments by those being taught and the actions of those who finance and use the product. In the long and sometimes short run, persons outside education select evaluative criteria and often this judgment is more perceptive than those whose vested interest that tends toward continuance of program and process and evaluation. These criteria also use the actions of potential students and the actions of the vocational educator as specific indicators of the relevance of the program as related to individual needs and societal changes in the work area.

Relevance of Program

Process Criteria

1. Do all students secure related experience necessary for entry job placement?

2. Are processes established which assess student competencies upon entering vocational education?

3. Have occupational changes in the area over the last few years resulted in program drops and changes?

4. Are special programs, methods, and evaluation in use to assist minorities, disadvantaged and handicapped?

5. Do "power structure" persons serve on advisory committees?

6. Are students involved in the school program and assigned responsibility as they are able?

7. Are student youth groups an important part of the program? Are they delegated authority and responsibility?
8. Are programs planned to inform students, parents, and employers about vocational education?
9. Are outside people with special knowledge used in the instructional program?
10. Do "power structure" parents have their children enrolled?
11. Are students allowed to fail and overcome their failures?
12. Do students cooperate and assist one another in the learning process and, if so, to what degree?
13. Do students carry on self-evaluation?
14. Are periodic reviews made to determine programs that are not relevant? Are they dropped?

Product Criteria

1. Do employers hire vocational students prior to hiring nonvocational applicants and to what degree?
2. Do students learn employment seeking skills and demonstrate these skills?
3. Are vocational staff involved in solving economic, manpower, poverty, and vocational related problems in the community?
4. Do students learn the latest knowledge regarding work, employment, advancement, and the requirements of each?
5. Do students feel more confident, self motivated future oriented, and capable of their own self direction as compared to nonvocational students?
6. Do business people and parents have more confidence in the vocational student succeeding in the work world?
7. Do students choose the program and create demand or are efforts solely at recruitment?
8. Do graduates secure additional education to a greater degree than nonvocational employees in the same setting?

Impact of the Program. The concept behind this broad criteria is based on the fact that if something works or is needed most persons will buy it or to put it another way, changes will be made so the new, successful, and valued program can grow. More money will be invested and schedules and priorities will change to allow the new program to try new things. In other words, a success brings more success and support. Since vocational education functions in the environment of other education it is necessary to secure some change in that environment to be more effective in vocational education. Evidences of such successes are criterion which may be looked for as ways to evaluate the quality of vocational education. It is a type of consumer evaluation.

Impact of the Program

Process and Product

1. Is the schedule and organization of the school or are regulations of the board of education changing to accommodate new programs and procedures?
2. Is the record of educational equity better as compared to other programs in the educational organization?
3. Are special funds offered to and used by the vocational department to try and test new things and new ways?
4. Do other educators (nonvocational) visit the school to see new programs and processes?
5. Do the media people know about the vocational program and do they tell about it?
6. Are vocational staff used as advisors in programs outside the school; in school?
7. Have state regulations changed to encourage and reward new programs?
8. Are federal regulations, laws, and appropriations for vocational and vocational related programs changing to accommodate the newer thrusts?
9. Are parents involved in the process of planning their children's education? Do they want to and do they feel it is valuable?
10. Are services being expanded to meet the needs of adults at the request of the adults?
11. Are vocational students respected as students and has the ratio of poor, dropout, and other isolated youth tended more toward normal distribution?
12. Are employers calling on the school?
13. Are youth volunteering to serve the community as part of the program and do agencies and employers request their help?
14. Do adult attitudes toward new vocational programs, objectives, and processes support what has happened?
15. Are activities planned to impact upon the schools, parents, and community?

16. Are new and different individuals and groups being served by vocational education?

Individual Transition and Growth. The ultimate criteria for which vocational education should be held accountable is what happens to the learner when he/she makes the transition to the work world or to the next step whatever it may be. There are many factors other than vocational education which may determine the success of the transition but the ultimate question is what difference did vocational education make? The process of transition in our society has become a major problem for everyone as they move through the passages of life in a mobile, changing, complex society.

If what happens after leaving the program is to be considered as one kind of criteria, then there must be some process by which the transition is made in such a way that the individual gets to use the vocational education he/she received and perhaps even more important that the individual moves into a situation where continued learning can take place. The goal of vocational education may be seen as not only preparing for entry into the workplace but developing a learner whose growth in the work world will be self actualized by the learning received in vocational education. Furthermore, the economic loss to society in unemployment which may have more long range consequences both to the individual and to society. These criteria see the job as a means not the end and thus raise the question of whether placement in a job for which trained is a good criterion against which to evaluate vocational education. It can certainly not be used if the average person changes occupations five times during his/her work life.

Individual Transition and Growth

Process Criteria

1. Is assistance available for transition to the work world?
2. Is preparation for making the transition available and are minimum competencies established?
3. Do parents approve of this service, do employers, do the students?
4. Is there instruction to help students gain knowledge and skills to avoid the failures that 95 percent who lost their jobs have not learned?
5. Is follow-up of graduates used to change the program and process?
6. Do employers and community want to have input into educational criteria based on their involvement in transition and follow-up of students? Do they have input?
7. Are the community citizen and community agencies used in the transition process?

Product Criteria

1. Do students, employers, and community use the service?

2. Do students using this service secure work or employment with greater opportunities for utilizing their talents and training? Is a pattern of change in this use discernable?

3. Do vocational students have long range career plans?

4. Is there evidence that vocational school learners do better at finding, receiving and advancing in the work world toward career goals?

5. Do employer attitudes reflect a positive difference regarding vocational students as compared to nonvocational students in regards to ability to get, hold, and advance on the job?

6. Do vocational students have better knowledge of and understanding about future work and present workplace conditions, requirements?

7. Are vocational students better informed as to future labor force trends and problems?

8. Are vocational students more knowledgeable regarding their own talents, interests as related to career plans than other students?

Limitations

This paper proposes some new criteria that may be more in the realm of "consumer" evaluation than "scientific measurement." Right or wrong, the matter of whether the quality of vocational education can be measured is a hypothetical question, but the matter of accountability is a pragmatic, operational matter. It is assumed that researchers and evaluators as well as traditionalists in education all want to find ways to be more successful. In a democracy, and even more in an educational system which has over 25,000 individual units from K-6 to separate vocational technical colleges, each independent in terms of administration and operation, the determination of success will be established by the owners and operators of the individual educational units. What is "right" is even more ethereal than what is "successful."

There is a true and proper conflict between what ought to be and what is and one of the limitations of the criteria suggested in this paper is that too much emphasis may be placed on the pragmatic. However, the degree to which the citizen will support the "theoretically right" is often based on the perception of how well the researcher and evaluator may help solve and assess the solutions of the pragmatic, operational problem.

No operator, separated from the theoretical, can help but become out of touch as does the researcher or evaluator isolated from the practitioners.

In a sense, all of us in education are theorists as education has become isolated from society and especially in the work aspect.

Most decisions about education are "value judgments" and the long term basis for vocational education improvement will relate to value judgments rendered by users of and participants in the program, as well as the public official who is accountable for financing and solving societal problems.
The present direct relationship between education and work, now required for nearly everyone, requires a new look at evaluation methods and priorities in educational research. This very fact may be a limitation of the proposed criteria, yet the question of what ought to be should not prevent analysis and assessment of what is.

Another limitation of the proposed criteria is that they put overt and covert pressure on the practitioner who has had little if any preparation as to knowledge and skills required to accomplish the goals and the criteria may meet opposition within the educational community especially among nonvocational colleagues, who may claim them to be irrelevant to "the true and proper" goals of education.

Lastly, most researchers have been prepared to do a different type of analysis than called for by these criteria. The ability to advance professionally in the research and evaluation field is not dependent upon the kind of assessment suggested in this paper.

Lastly, these criteria are begged, borrowed, and stolen and certainly some are wrong--that certainly is a limitation. Some are new but only in context.

Most of you reading this paper will be able to suggest other limitations.

Realistic vs. Ideal Criteria

What is realistic and what is ideal? In attempting to respond to this often argued classification this paper simply defines realistic as criteria that are known, specific, accepted, and measurable. Idealistic criteria are those which are not commonly accepted as one's responsibility, dimly seen, and variably described, and for which there are few recognized measurement processes; however, they are of such a nature that most persons believe "someone ought to do something about them."

Ideal criteria can be used if they are put in understandable terms and if there is proof of positive help for the individual student, employer, and taxpayer.

Employment in the Field for Which Trained

This criterion, while appearing to be realistic and relevant, tends to keep vocational education tied to the past. The evidence is that such a criterion can only guarantee that vocational education will be seen as inefficient since there are too many other factors over which vocational education has no control that impact upon this situation.

The factors that determine whether an individual student can get employment in a specific field are primarily those which are set outside education. At any one time the rate of change in skills, knowledge and technology is so great that employment in a specific field is more dependent on the following:

1. local, state and national economic conditions

2. mobility of employer and employee
3. government contract awards
4. the shut down of production in a related field
5. discovery of a new energy source or a new machine
6. the quirks of the interviewer
7. the weather
8. the international conflict picture
9. the wealth of the Arabs and the price of oil
10. the changing values or life styles that are "in"
11. others

This is not to imply that failure to get work in a field for which the student is trained, if jobs are available, is not a measure of poor quality in vocational education, but rather it is to say that this criterion, when it dominates the measures of accountability, guarantees that vocational education would become less and less concerned with the future and work change and thereby less and less able to develop new criteria and programs responsive to changing conditions.

The concept of employment in the field for which one is trained needs to be redefined to one that is more relevant to today's workplace and to the individual's need to be able to adjust to the unknown changes in the workplace that will continue to come in the future. In fact, many employers argue that the greatest weakness of vocational education is adherence too closely to specificity of skills which can become obsolete or prevent occupational mobility either vertically or horizontally.

Conclusions

Through this paper, the author has attempted no more than to suggest that traditional criteria for accountability in education and in vocational education are not relevant to the future. Measurement of outcomes against only traditional and validated criteria assigns vocational education to a decreasing role in preparing individuals for future work at a time when preparing for work and changes in work roles are necessary for everyone.

The new and specific needs of special groups and the new and continuing needs in education apply to everyone today and not just to a percentage of the population. Another way of expressing the arguments for the conclusions reached by this writer is that success criteria in both work preparation and in general education which have been traditionally used are not adequate. Somehow, the two must be put together and changed if vocational education is to meet the needs of both learner and society. Such redesign will require changes in product, process and in institutions which are responsible for product and process.

Therefore, the following conclusions should be given consideration in selecting criteria for accountability.

1. Quality in vocational education cannot be tied to the old normative measures designed to select students out of formal education or to select workers to proceed into the higher skilled occupations.

2. Criteria selected must be relevant to the individual needs as well as to new societal problems different from the past.

3. Vocational education methods and processes need to focus more directly on the relationships and learning opportunities in society that will bring education and work experience together in a cooperative effort.

4. Search for specific criteria that can be proven "to be right" may prevent the search for criteria that may be more usable idealistically and realistically.

5. Criteria for accountability must be selected that are responsive to student needs, societal problems, and employer concerns before the evaluation processes can be determined.

Specific Criteria Suggestions

This paper has made no attempt to be definitive in the presentation of specific criteria other than the suggestions made earlier. Perhaps if the suggested broad areas for criteria of accountability make sense a national effort to define specific criteria by a group made up of employers, parents, students, teachers, administrators, policy makers, and legislators could be chosen to define specific criterion in each broad area. This could be a basis for redesigning the criteria for accountability against which vocational education should be held accountable.

This effort ought to be made by those in vocational education so the concern for quality by vocational educators is obvious to those who now see compliance and regulation as the route to forcing vocational education to move toward new criteria.

The four broad categories of criteria to be studied are the following:

1. Instructional and program quality,

2. Program relevance to individual and societal needs in relation to work,

3. Program impact on organization, policy, support and usage of vocational education,

4. Individual transition to and growth in the work world.

Unless the vocational educator and the evaluator of vocational education propose new and better criteria acceptable to society, even more time will be spent in meeting compliance requirements which are becoming ends instead of means. Therefore, this writer proposes that these four broad categories of criteria become the basis for establishing specific criterion in each area that can assess the broad changes of vocational education in specific units educating students or administering programs.

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